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نموذج رقم (١٨)
اقرار والتزام بالمعايير الأخلاقية والأمانة العلمية
وقوانين الجامعة الأردنية وأنظمتها وتعليماتها
لطلبة الماجستير

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تخصص: الادارة المتكاملة لمصادر المياه الكليـــــة: العلوم

عنوان الرسالة: The Euphrates – Tigris and its path from conflict to cooperation – applying political theories of transboundary cooperation

اعلن بأنني قد التزمت بقوانين الجامعة الأردنية وأنظمتها وتعليماتها وقراراتها السارية المفعول المتعلقة باعداد رسائل الماجستير عندما قمت شخصيا" باعداد رسالتي وذلك بما ينسجم مع الأمانة العلمية وكافة المعايير الأخلاقية المتعارف عليها في كتابة الرسائل العلمية. كما أنني أعلن بأن رسالتي هذه غير منقولة أو مستلة من رسائل أو كتب أو أبحاث أو أي منشورات علمية تم نشرها أو تخزينها في أي وسيلة اعلامية، وتأسيسا" على ما تقدم فانني أتحمل المسؤولية بأنواعها كافة فيما لو تبين غير ذلك بما فيه حق مجلس العمداء في الجامعة الأردنية بالغاء قرار منحي الدرجة العلمية التي حصلت عليها وسحب شهادة التخرج مني بعد صدورها دون أن يكون لي أي حق في التظلم أو الاعتراض أو الطعن بأي صورة كانت في القرار الصادر عن مجلس العمداء بهذا الصدد.

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THE EUPHRATES-TIGRIS BASIN AND ITS PATH FROM CONFLICT TO COOPERATION - APPLYING POLITICAL THEORIES OF TRANSBOUNDARY COOPERATION

By

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This Thesis was Submitted in Partial Fulfillment of the Requirements for the Master's Degree of Science in Integrated Water Resources Management

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COMMITTEE DECISION

This Thesis/Dissertation (The Euphrates-Tigris Basin and Its Path from Conflict to Cooperation-Appling Political Theories of Transboundary Cooperation) was Successfully Defended and Approved on 18/1/2010

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Dedication

With sincere love, I dedicate my work to my beloved daughters, who gave me the courage and strength to finish this work. I want to thank my family and friends for helping me through these tough times of becoming a mum and being in the final stage of the thesis at the same time.

With love,

Anna

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Abbreviations

ACSAD	Arab Centre for the Studies of Arid Zones and Dry Lands
BAR	Basin at Risk
BCM	Billion Cubic Meter
CEDARE	Centre for Environment and Development for the Arab Region and Europe
DC	Development Cooperation
ECAs	Export Credit Agencies
ELI	Environmental Law Institute
E-T Basin	Euphrates-Tigris Basin
ETIC	Euphrates-Tigris Initiative for Cooperation
EU	European Union
EUWI	EU Water Initiative
GAP	Güneydogu Anadolu Projesi (Southeastern Anatolian Project)
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GIS	Geographical Information System
GOLD	General Organisation for Land Development
GTZ	Gesellschaft für Technische Zusammenarbeit (German Technical Cooperation)
GWh	Gigawatt hour
ICARDA	International Centre for Agricultural Research in the Dry Areas
INGOs	International NGOs
IR	International Relations
IWRM	Integrated Water Resources Management
JEC	Joint Economic Commission
JTC	Joint Technical Committee

LAS	League of Arab States
MENA	Middle East & North Africa
NATO	North Atlantic Treaty Organisation
NBI	Nile Basin Initiative
NGOs	Non Governmental Organisations
OECD	Organisation for Economic Cooperation and Development
OSCE	Organisation for Security and Cooperation in Europe
PCCP	Potential Conflict to Cooperation Potential
PKK	Partiya Karkerên Kurdistan (Kurdish Workers' Party)
TDS	Total Dissolved Solids
TFDD	Transboundary Freshwater Dispute Database
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNESCWA	United Nations Economic and Social Commission for Western Asia
USSR	Union of Soviet Socialist Republics
WB	World Bank
WCD	World Commission on Dams
WFD	Water Framework Directive

THE EUPHRATES-TIGRIS BASIN AND ITS WAY FROM CONFLICT TO COOPERATION

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APPLYING POLITICAL THEORIES OF TRANSBOUNDARY COOPERATION

By

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ABSTRACT

This study aims to investigate key factors for conflict and cooperation regarding transboundary water issues within the Euphrates-Tigris Basin. Water – a vital source for any aspect of life and society – does not stop at national borders. But often those transboundary water resources are not utilized in a sustainable manner, putting enormous pressure on the resources and maybe leading to political tensions between the riparian states.

Being in the focus of exaggerated debate about potential water wars, the study area deserves special emphasis. Further relevancy derives from the national importance of the water resources for the riparians and the importance of the riparians for the whole region. Climate change and population growth add even more pressure on the resources. Since the political science-based research is still developable with regard to both the region and transboundary water issues, the work applies an analytical framework based on theories of International Relations, namely Regime Theory, Constructivism and the multi-disciplinary concept of Benefit-Sharing in order to conduct an in-depth analysis of the basin in terms of conflict and cooperation. The guiding assumption here is that often other circumstances, e.g., economic, political, geostrategic factors and security issues hamper cooperation and could be drivers of conflict, instead of the water itself. Therefore, these accompanying factors are important to identify the

potential scope of action for the prevention of conflicts and chances for cooperation in transboundary water basins. Such regional cooperation is said to be one preliminary condition in modern times of interdependency in order to assure development and socio-economic growth for both the nation states concerned and the whole region.

The analysis of the history and recent developments of conflict and cooperation between the riparians – Turkey, Syria and Iraq – shows that an obvious, although slight, process towards transboundary water cooperation within the Euphrates-Tigris Basin has developed over time.

Historically, different stages of conflict and cooperation can be classified as being more or less tensioned. Within those stages three major crises occurred (1975, 1990 and 1995/96) – all related to the construction or the filling of large-scale dams. During the ambivalent times of crises and negotiations, two transboundary water agreements – one between Turkey and Syria and one between Syria and Iraq – have been reached as well. Although bilateral, they represent the clearest water-related regimes in terms of institutionalised cooperation within the basin. Since the late 1990s, the water dispute has entered a new stage characterised by recent developments and an overall rapprochement of the riparians bringing new perspectives and new actors to the agenda of transboundary water politics correlating with significant political changes and improvements in bilateral relations. Therefore, the Euphrates-Tigris Basin is a favourable example to underline the complexity and interlinkages of water, conflict or cooperation, and socio-economic conditions within a highly political and politicised regional context. Although a sustainable tripartite basin-wide agreement is still pending, the prospects for transboundary cooperation have improved.

1. Introduction

1.1. Study Problem Statement

Water is a vital source for any aspect of life and society, and it cannot be substituted. It is of economic, social, environmental and political importance. Furthermore, it does not stop at national borders. There are 261 international rivers counted, and their basins cover half of the global land surface and are shared by 145 nations (e.g. Wolf 1998).

But often those transboundary water resources are not utilized in a sustainable manner to the optimal and long-lasting benefit of all riparian states and the ecosystem. Over-abstraction, pollution and uncoordinated utilization put enormous pressure on the resources and may lead to political tensions between the riparian states.

Since the 1980s, the public was alerted through article headlines like *future water wars* and *water as the next fuel for military conflicts* (e.g. Scheumann 2002). In the 1990s, the slightly exaggerated and emotionalized discussion even reached the scientific community (e.g. Starr 1991). From the very beginning, the Middle East was in the focus of such a debate due to both its political tensions and its scarcity in terms of water resources.

However, the contrary implication of shared waters was also discussed. The scientific community developed the thesis and empirical evidence of *water as a driving force for cooperation* (Houdret 2004; Wolf et al. 2003; Trondalen 2008). It was assumed that complex and globally forced issues like transboundary water resources and their proper use could not be solved unilaterally. Furthermore, the empirical counter-evidence of water wars showed that cooperation on international rivers overweighs (Wolf 1998; Freshwater Dispute Database 2006). This *Wolfian revisionism* of the theory of water

wars determined that violent conflicts over water tend to occur on the intrastate level but not on the interstate level.

Several studies (e.g. Van Edig 2000) pointed out that often other circumstances – like economic, political, geostrategic factors and security issues – hamper cooperation and could be drivers of conflict, instead of the water itself. These accompanying factors are important to identify the potential scope of action for the prevention of conflicts and chances for cooperation in transboundary water basins. Such regional cooperation is said to be one preliminary condition in modern times necessary to assure development and socio-economic growth for the nation states concerned.

1.2. Justification

In the following, both views on transboundary waters will be depicted. Hindering factors that may lead to conflict and supporting factors to enhance cooperation will be discussed to present a complete picture of the different drivers present in the Euphrates-Tigris Basin (E-T Basin).

The E-T basin was identified as a study area of utmost importance, because current research is still at a developable level. Research following theories of International Relations (IR) and Cooperation is still missing compared with other basins in the MENA (Middle East and North Africa) Region like the Nile River Basin and the Jordan River Basin (Bernauer 2002). Furthermore, the E-T Basin has been chosen due to its national importance to three countries – Turkey, Syria and Iraq – and due to its strategic relevance at the regional level in terms of water resources. All three countries strongly depend on water resources stemming from the Euphrates and the Tigris since they are still mainly agrarian countries that emphasize self-sufficiency and therefore employ a

significant portion of their population in the sector (Van Edig 2000). Furthermore, the political situation bears some complexity since Turkey is a regional power on the rise, Syria an emerging middle-sized power and Iraq associated with special security issues that affect the whole region.

Due to climate change and population growth in all of the three countries, the pressure on the shared resource is likely to increase in the foreseeable future (e.g. IPCC 2001; UN 2006). To feed their growing populations and to enhance economic output, Turkey, Syria and Iraq plan to extend irrigated agriculture and will therefore need additional water supply from the basin.

Besides efforts towards improved demand and supply management, more regional cooperation regarding transboundary water resources is seen as necessary to deal with the regional scarcity (e.g. Trondalen 2008; Allan 2002b).

Since international law is still poorly developed and enforcement not sufficiently enabled concerning transboundary water issues (Wolf 1998), the need is clear to emphasize other mechanisms and incentives for cooperation.

Another justification for this research derives simply from the international agenda and commitment towards Integrated Water Resources Management (IWRM). More than ever "Transboundary water cooperation is an indispensable prerequisite for IWRM regarding transboundary water resources" (BMZ 2006: 5), and "Optimal utilization and effective protection of transboundary waters are only possible if the riparian states cooperate in line with the principles of Integrated Water Resources Management (IWRM)" (BMZ 2006: 3).

1.3. Objectives

Following up this study problem and the related justification, the work shall investigate the factors, which support and hamper transboundary cooperation within the E-T Basin.

In order to reach this main objective, the steps of research are as follows:

1. *Current research* on conflicts and cooperation in the basin will be scanned to identify hindering and supporting factors. As a base of identification and analysis of such factors, specific theories of IR and interdisciplinary approaches will be used which already have shown some explanatory power with regard to water management, such as Regime Theory, Constructivism and the Concept of Benefit-Sharing.

2. The identified factors of conflict and cooperation will be compiled within a developed *Analytical Matrix Framework* and certain *hypotheses* will be set up to guide the following assessment of the E-T Basin.

3. A detailed overview of the *history, geography, hydrology, land, and water use* patterns of the basin will be scrutinized to introduce the assessment of the case study.

4. *Key factors of conflict and cooperation* within the basin will be identified in order to test the previous assumptions.

5. Out of this application, the *potential and limits of the theories of transboundary water cooperation* for the understanding of the E-T Basin will be gained and displayed.

6. A *discussion of the gained results* containing a critical review of the state of conflict and cooperation within the basin, the lessons learned in terms of

theoretical assumptions and practical implications, and precise policy recommendations in order to boost regional transboundary water cooperation will be conducted.

7. A short *conclusion and a brief outlook* will conclude the work.

1.4. Previous Studies

Various general studies on transboundary cooperation exist, but a large quantity of the material is more technically oriented (Bernauer 2002).

Much research (e.g. Gleick 1996, in: Bächler 1996) is dedicated to the *Water Wars* thesis assuming that water scarcity and contested water resources “can and will lead directly to warfare between nations” (Wolf 2007: 3.3). This stemmed from the so-called Neo-Malthusian Approach deriving from Thomas Malthus´ *Essay on the Principle of Population* (Malthus 1798), “which drew a gloomy picture of demography-induced resource scarcity, necessarily leading to either famine or war” (Kipping 2009b: 675). Neo-Malthusians assume violent conflicts resulting from growing water stress in terms of a shortage of renewable water resources per capita.

Focusing on a political science-based analysis of transboundary water cooperation, LeMarquand´s work laid the ground for what could be called *Political Economy* of international river management (LeMarquand 1977). He was the first to develop hypotheses on the reasons for cooperation to fail or succeed.

Aaron Wolf from Oregon State University – the *guru* of the research into causes of conflict and cooperation with transboundary water issues – rebutted with his several empirical studies the thesis of interstate water wars (e.g. Wolf 1998) and tried to

develop indicators for cooperation and conflict with his *Basin at Risk* (BAR) project (Wolf 2003).

Explanation of cooperation following classical IR Theories can be found among realist scholars and their concept of Hydro Hegemony (Zeitoun and Warner 2006, 2008). According to this theory, exercising control over water resources is based on power politics. Therefore, it remains just a decision of the hegemon whether cooperation or conflict is prevailing. This view is seen as useful to trace regional structures but highlights only explanations of conflict and coercion instead of cooperation.

More useful approaches deriving from the IR context are Institutional Theories, which assume that through increasing pressure greater incentives to cooperate for all riparians develop. Success of regional water management is seen as highly determined by the context of political processes and the related institutional arrangements (Bernauer 2002).

The importance of these institutional arrangements was underpinned by several studies (e.g. Wolf et al. 2003). Regime Theory as an Institutional Theory lays the groundwork for the Analytical Matrix to be applied on the E-T Basin. Regimes are defined by Krasner (1983) as “sets of implicit or explicit principles, norms, rules, and decision making procedures around which actors’ expectations converge in a given area of international relations.” List and Zangl (2007) state that regimes are institutionalized structures of interstate cooperation. They precisely define principles as general standards of behaviour, norms as specific regulations of behaviour and rules as verifiable regulations of behaviour (Zangl 2006).

Marty (2007) developed concrete factors for analyzing water regime formation and water regime effectiveness, which will be further developed and applied in this work.

In the light of Regime Theory and based on Marty´s factors, Kipping (Kipping 2009a / Kipping and Lindemann 2005) argues against the previously mentioned Malthusian view. His so-called Anti-Malthusian correlation of water availability and conflict or cooperation states that increased pressure on the resource may induce a shared demand and therefore cooperation. This perception was proven in the Senegal Basin and may also fit for the E-T Basin.

Lindemann (2009) examines the *Success and Failure in International River Basin Management* for Southern Africa and analyses the process and institutional factors, country- specific factors and the international context. His inclusion of international actors and Non Governmental Organisations (NGOs) is seen as contributive to the assessment of the E-T Basin. He connects thereby to Constructivism theory, which will be explained below.

The Theory of Constructivism with a special focus on the theories of Development of Norms shall be applied due to its explanations of states and their action as driven by actors and groups of interest. These groups are seen as the main shaping elements for cooperation or conflict.

A basis for understanding Social Constructivism was provided by Ulbert. She states that reality is constructed by actions and shared visions of actors and interest. Ideas as constitutive for chosen actions are built upon processes of social interactions (Ulbert 2008). To describe the importance of ideas, Goldstein and Keohane stated in their groundbreaking book *Ideas and Foreign Policy* that “Ideas Matter” (Goldstein and Keohane 1993). Finnemore and Sikkink underpinned that the “[...] international structure is determined by international distribution of ideas. Shared ideas, expectations, and beliefs about appropriate behaviour are what give the world structure, order, and

stability [...].” (Finnemore and Sikkink 1998: 894). Norm entrepreneurs like NGOs are seen as playing a significant role and intentional motives like prestige, international acceptance and culture set incentives or obstacles for cooperation (Finnemore and Sikkink 1998). This theoretical explanation will be used to trace the increasing importance of civil society movements, especially in Turkey, and the role of epistemic communities like recent activities of the Euphrates-Tigris Initiative for Cooperation (ETIC) (Kibaroglu 2008, http://etic-org.net/index.html).

Behavioural concepts like *Game Theoretical Approaches* underpin the importance of riparians’ structures of interest in shaping the conflict. Haftendorn (2000) offered a classification of water conflicts in types and causes and showed that non-cooperative zero-sum situations could be replaced by cooperative positive sum situations by adding additional incentives for cooperation. Concepts like *Issue-Linkage* and *Benefit-Sharing* influenced his work.

The concept of *Benefit-Sharing* as an interdisciplinary approach, which combines political sciences with economics, is seen as especially promising when searching for supportive factors for cooperation. In general, the concept refers to the idea of sharing the benefits of water instead of only water quantities. *Enlarging the pie rather than sharing the amount of water* proved to be a valuable approach in practice.

Sadoff and Grey (e.g. Sadoff and Grey 2005) compelled the current research about Benefit-Sharing and provided a good framework of understanding the different types and stages of cooperation. Klaphake's discussion of the *Benefit-Sharing* concept (Klaphake 2005) is as well very useful since it focuses on utilizing the approach to overcome upstream-downstream-problems. He promotes the thesis that Benefit-Sharing can lead to cooperation despite diverging interests of the riparians.

Some experts on the region already compiled secondary data and precise information regarding the basin. Kibaroglu (e.g. 2008, 2007, 2003, 2002) gives a good overview of the past and recent developments, offering approaches of cooperation and testing and explaining some existing theories. The publications of Scheumann (2008, 1998) and Altinbilek (2004) offer insights into hydro politics of the region but focus mainly on the description of Turkish policies and politics. A very comprehensive publication with regard to the E-T Basin was published in 2008 by the United Nations Educational, Scientific and Cultural Organization (UNESCO) and written by Trondalen (Trondalen 2008). His book provides updated data concerning quantity and quality of the Euphrates and Tigris. Additionally he proposes practical and objective solutions for more cooperation. This book may be the only one that can be described as a *Handbook for Cooperation* for the region even if not based on a holistic political science approach.

In addition to the application of IR theories on the ET-Basin, lessons learnt from other cases will be added to complement the Analytical Framework.

2. Methodology

The objectives and the guiding research questions imply a qualitative research method as well as a dichotomy of the thesis in one theoretical part and one practical case study-oriented part. The applied methodologies follow this bisection.

A political analysis will be conducted based on the detailed demonstration and interpretation of cooperation stemming from selected theories of IR. This research is conducted through an explorative examination of important secondary literature plus experiences and lessons learnt from other cases. Compiling the latest research will lead to a complex Analytical Matrix Framework with hampering and supporting factors for regional cooperation within shared international water basins. As a result of this literature review, the standardized matrix will be applied on the riparian states of Turkey, Syria and Iraq. The necessary data will be provided mainly by primary and secondary literature. This part of the study equates an empirical testing and regeneration of the factors developed before. The method used consists of a process analysis and process tracing in order to define the underlying causal mechanisms of cooperation and conflict while displaying the past and current developments inside the basin.

The dependent variable to be explained is transboundary cooperation, more precisely the water regime formation and regime effectiveness. The examined hampering and supporting factors mentioned in the matrix are considered as independent variables. Other independent variables are the actors, groups and events related to the decision-making process of conflict and cooperation within the E-T Basin.

In the following discussion, the analysed factors are assessed with regards to their explanatory forces for the Euphrates-Tigris case. Lessons learnt shall be outlined and Policy Recommendations shall be developed.

Such a methodological approach is chosen in order to answer the two main guiding research questions:

Research Question 1: *Which were / are the main factors of conflict and cooperation in the E-T Basin in the past and in recent years?*

Research Question 2: *What are the potential and limits of the theories of transboundary water cooperation for the understanding of the E-T Basin.*

Thereby certain hypotheses will be analysed based on the selected theories, which will be outlined in the respective theoretical chapter in depth and which will be applied and tested in the respective Case Study chapter.

Through examination of the guiding questions and the gained insights, the hypotheses will be proven or failed, and implications for the Analytical Framework and the applied theories will be discussed. A critical review, recommendations and a brief conclusion shall be given to display the practical policy implications as well.

3. Political Science Assessment of Transboundary Waters

3.1. Introductory Definitions of Conflict, War and Cooperation

Many studies and publications dealing with the topic of water-related conflicts and cooperation do not clearly state the underlying definitions. Therefore, it will be a starting point for the political science assessment of conflict and cooperation in this study to define the relevant terms.

From a social science perspective, the term *conflict* is generally understood as a part of social action, which is based on the incompatibility of certain interests or intentions of two or more actors. For this reason, conflicts are characteristic of every human interaction and do not necessarily represent irrational or deviant behaviour. Furthermore, it is the social order of a society with its ability to institutionalize conflicts, which determines whether a conflict is played out by the use of violence, shunning or formal proceedings. Therefore, conflicts cannot be *solved*, but can only be handled and must be institutionalised (Elwert 2005: 12-15).

Coming from this difference of interest point of view, water and its management are conflictive in nature due to its multipurpose or, as Aaron Wolf stated:

> "[…] all water management is multiobjective and is therefore, by definition, based on conflicting interests. Within a nation, these interests include domestic use, agriculture, hydropower generation, recreation, and environment—any two of which are regularly at odds—and the chances of finding mutually acceptable solutions drop precipitously as more actors are involved. […] Water management is, by definition, conflict management. Water, unlike other scarce, consumable resources, is used to fuel all facets of society, from biology to economies to aesthetics and spiritual practice. Moreover, it fluctuates wildly in space and time; its management is usually fragmented; and it is often subject to vague, arcane, and/or contradictory legal principles" (Wolf 2007: 3.4-3.5).

In order to become more precise in dealing with water-related conflicts, it is helpful to use the differentiation developed by Haftendorn. According to her, there are different types of conflict depending on the use of running waters: human consumption, irrigation or power generation and the related pollution. Furthermore, she distinguishes between the structure of the conflict arising over access to scarce water resources – whether they are absolute or relative in terms of distribution (Haftendorn 2000: 51). This leads to four categories of conflict and its causes: conflict through use, conflict through pollution, relative distribution conflict and absolute distribution conflict.

Table 1: Causes of Water Conflict

Conflict Type	Conflict through use	Conflict through pollution	Relative distribution conflict	Absolute distribution conflict
Conflict Causes	Water use	Water quality	Water distribution	Water distribution and availability
Example	Parana, Donau, Oder	Rhine	Euphrates, Nile, Ganges	Colorado and Rio Grande, Jordan

Source: Haftendorn 2000: 53

Having clarified the term *conflict*, it is necessary to look at definitions of war. Against today's background, there is no single, uniform or standard definition of war within the field of peace and conflict studies. Accordingly, this work just assumes war as continued actions of violence among rivalling combat units (Heupel and Zangl 2004: 350).

In contrast, cooperation is defined as an antonym of confrontation and conflict – here in the special field of IR as a political strategy of collaboration (Nohlen and Schultze 2002: 448).

Based on the presented definitions, this work will focus on transboundary water conflicts as nonviolent disputes over diverging interests of riparians and on transboundary cooperation as collaboration in the field of water policy.

Based on this clarification of terms, the political science assessment of conflict and cooperation along transboundary waters begins with an examination of the popular assumptions about water wars when talking about transboundary waters and their empirical reality.

3.2. Hypothetic Water Wars and the Empirical Reality

Based on the observation that “[…] water demands are increasing, groundwater levels are dropping, surface-water supplies are increasingly contaminated, and delivery and treatment infrastructure is aging” (Wolf 2007: 3.3), and related security implications, a vast (more or less scientific) literature and public awareness has developed, dealing with the topic of expected water wars.

Starting in the mid-'80s with an article by Cooley (Cooley 1984) about the Arab-Israeli War of 1967 and its interpretation as a *war over water*, the Middle East was from the very beginning in the focus regarding expected *water wars* (Starr 1991). Until the beginning of the 21st century, topics and titles like *Water Wars: Coming Conflicts in the Middle East* (Bulloch and Darwish 1993), *Water and War* (Remans 1995), *Water Wars in the Middle East: the looming threat* (Amery 2002) dominated the discussion about water-related or water-accompanied conflicts.

Those statements were built upon the assumption that water scarcity and contested water resources “can and will lead directly to warfare between nations” (Wolf 2007: 3.3). This stemmed from the so-called Neo-Malthusian Approach deriving from

Thomas Malthus´ *Essay on the Principle of Population* (Malthus 1798), “which drew a gloomy picture of demography-induced resource scarcity, necessarily leading to either famine or war” (Kipping 2009b: 675). Neo-Malthusians strongly assume violent conflictive consequences of growing water stress in terms of a shortage of renewable water resources per capita. Indeed, Malthus did “argue quite persuasively for some degree of causality between environmental stress – reaching up against relative resource limit – and political decision-making” (Wolf 2007: 3.3) and was therefore – regardless of some shortcomings and simplifications and missing empirical evidence – taken up by further research paradigms.

Although it holds true that especially ”[i]n societies where renewable natural resources constitute the main economic assets, politically dominant groups might resort to violence in order to assure control over these resources, if the distribution of the latter does not already correspond to the distribution of power in society” (Kipping 2009b: 679), such findings just underpin the likelihood of *intrastate conflict* and point to the genuine political questions arising while actually saying little about the likelihood of *interstate violent conflict*.

Aaron Wolf, the *guru* of transboundary water conflict science, brought the empirical counter-evidence to the rhetoric of water wars. By conducting several large-N macro-quantitative studies, this *Wolfian Revisionism* showed that water was and is more of a catalyst for interstate cooperation than for conflict. In a first comparative analysis, he dissected 412 crises between riparian states from 1918 until 1994 and found only seven cases where water issues contributed to the dispute (Wolf 1998 & Wolf et al.1999, cited after Trottier 2003: 7). Within the even more comprehensive project of setting up the

Transboundary Freshwater Dispute Database (TFDD) Oregon State University later used for Wolf´s BAR project, he came up with following findings:

> "Conversely, between the years 805 and 1984, countries signed more than 3,600 water-related treaties, many showing great creativity in dealing with this critical resource (Wolf 1998). Overall, shared interests, human creativity, and institutional capacity along a waterway seem to consistently ameliorate water's conflict-inducing characteristics. Furthermore, once cooperative water regimes are established through treaties, they turn out to be impressively resilient over time, even when between otherwise hostile riparians, and even as conflict is waged over other issues. These patterns suggest that the more valuable lesson of international water may be as a resource whose characteristics tend to induce cooperation, and incite violence only in the exception." (Wolf et al. 2003: 2)

Based on the TFDD, Wolf's research group conducted a study of *all* (according to Wolf 1999) international basins within the period of 1948 to 1999 and compiled a dataset of "every reported interaction between two or more nations, whether conflictive or cooperative, which involved water as a scarce and/or consumable resource or as a quantity to be managed – that is, where water is the driver of the event" (Wolf et al. 2003: 4). This analysis resulted in the finding of 1,831 water events, either conflict or cooperation, and 507 of them were conflictive, 1,228 cooperative, and 96 neutral or non-significant (Wolf et al.2003: 4). Based on the *BAR event intensity scale* ranging from minus 7 (formal declaration of war, extensive war acts causing deaths) to plus 7 (voluntary unification into one nation), the researcher's conclusions here were that there are no events at the extremes, whether war or unification. Rather, most interactions are cooperative, with cooperative events being more than twice as common as conflictive events and most interactions being mild. Of the 37 cases of acute conflict, 30 are between Israel and one or another of its neighbours (Wolf et al. 2003: 5). Moreover,

most actions were only verbal (62%) with two-thirds of them resulting in no official sanction (Wolf 2007: 3.20).

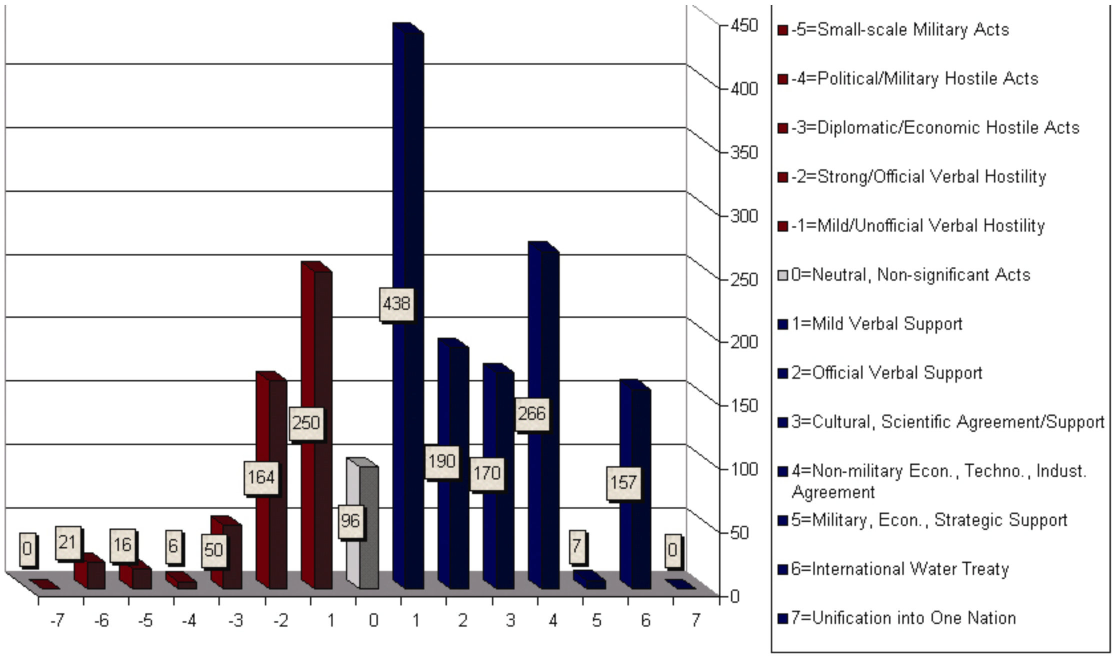


Figure 1: Number of Events by BAR Scale

Source: Wolf et al. 2003: 7

According to Wolf, this provides the evidence that water might act as an irritant, making good relations bad and bad relations worse. But at the same time, water can act as a unifier as it was shown that "water disputes do get resolved, even among bitter enemies, and even as conflicts rage over other issues" (Wolf et al. 2003: 8). The major water-related conflictive issues are about quantity and infrastructure, and cooperation takes place *over a wide variety of issues*, including quantity, quality, economic development, hydropower, and joint management (Wolf et al. 2003: 7-8). Wolf drew a more complex picture of the inter-linkages of water resources and possible conflict by saying that "[d]isparities between riparian nations – whether in economic development, infrastructural capacity, or political orientation – add further complications to water resources development, institutions, and management" (Wolf 2007: 3.7). But violence

in terms of waging interstate war "does not seem strategically rational, hydrographically effective, or economically viable. Shared interests along a waterway seem to consistently outweigh water's conflict-inducing characteristics" (Wolf 2007: 3.7). If there is a relationship of water to war then water is more likely to be "a tool, target, or victim of warfare – not the cause" (Wolf 2007: 3.4-3.5).

Confronted with his findings and the persistent prevalence of the water war discourse, Wolf pointed to the problem of biased case studies using interchangeable loose definitions of terms like conflict, dispute, tensions and war (Wolf et. al 2003:2).

Another explanation regarding this prevalence of the concept of water wars regardless of the empirical counter-evidence was brought by political-psychological approaches describing the *sanctioned discourse* (a term introduced by Tony Allan to describe prevailing dominant opinion and views legitimised by the discursive and political elites, Allan 2003b) of water war as a *hegemonic concept*, which was purposefully constructed and still is propagated due to defined interests of decisive social actors (Trottier 2003).

In a remarkable UNESCO / PCCP (Potential Conflict to Co-operation Potential) publication, Trottier describes how the water war thesis as a hegemonic concept is not really questioned anymore regardless of its disputed trustfulness, but uncritically and partly unconsciously adopted (Trottier 2003: 2) due to its useful simplification of problem structures, thereby creating a kind of common sense on perceiving certain issues. Further it is argued that such

> "ideologically hegemonic conceptions provide stabilizing distortions and rationalizations of complex realities, inconsistent desires, and arbitrary distributions of valued resources. They are presumptions that exclude outcomes, options, or questions from public consideration; thus they advantage those elites well positioned to profit from prevailing cleavage patterns and issue definitions. That hegemonic beliefs do not shift fluidly with changing realities and marginal

> interest is what makes them important. That they require some correspondence to "objective" realities and interests is what limits their life and the conditions under which they can be established and maintained."
>
> (Lustick 1993: 121, after Trottier 2003: 2)

Once established, such hegemonic concepts prevail, reinforce themselves and limit the availability of certain solutions. One example is the iterated citation of the imprecise water war literature (Trottier 2003: 11).

Regardless of the influential water wars concept, a contrary concept emerged – the concept of water peace. It assumes that states have far more to gain by cooperation than by waging war against each other, being simply "the most rational thing to do" (Trottier 2003: 7) – as already shown by the empirical counter-evidence. The problem is that the water peace concept is less easy to propagate because it is far more complex and because of this complexity, at least on the local level, social actors seem to be less interested in it (Trottier 2003: 12).

Having in mind the different approaches towards water peace and water war, it intuitively seems at least "justified to expect reaction to common resource scarcity to be cooperative as to suppose them to be confrontational" (Kipping 2009b: 676). Sadoff and Grey summarized those findings on water-related conflicts and cooperation by saying that it is genuinely the politics "[…] as a proxy for the full bundle of relationships, and associated tensions, that arise between states" which "will determine whether cooperation or conflict is chosen" (Sadoff and Grey 2002: 391).

Consequently, following a political science assessment of conflict and cooperation along transboundary waters, this work will try to gain some constructive insights into how the water-related problems within the E-T Basin and the prevailing lack of

cooperation is solvable. Therefore, this study will focus on theories of cooperation in order to find a theoretical fundament for a more sustainable future in practice.

In order to assure the work's *connectedness to the theoretical debate* (Kipping 2009b: 676), this study will be based on the classical schools of IR, which have or are assumed to have already shown some explanatory force with respect to how and why conflict and cooperation along transboundary rivers might occur.

Starting with Realism, which laid the groundwork for the modern interpretation of international relations, the work will further focus on Neo-Institutionalism – precisely Regime Theory, the Theory of Constructivism and the Concept of Benefit-Sharing.

3.3. Realistic Approaches

With its origin after World War II and the related experience of the League of Nations' failure, the realistic school is based on a negative idea of mankind. According to this Hobbesian sense, nation states are perceived as power seeking sovereign nation states, living in anarchy in the system of states. According to one of its founding fathers, Hans J. Morgenthau (*Politics among Nations*, Morgenthau 1965), it is power politics that holds them captive in a security dilemma. On this account, conflict is the norm between states and cooperation an anomaly for Realism (Kipping 2009b: 677). The underlying model is a single-play prisoner's dilemma determining payoff structures, which set incentives for defection as the dominant strategy leading to Neo-Malthusian outcomes like non-cooperation and conflict.

Later on, some further development and adaptation were done within the Realistic school putting forward the argument that cooperation is possible but only if hegemonically induced, that is if a hegemon forces other states into functional

differentiation in order to boost the common welfare. However, in this theory, institutions or regimes are still seen as less relevant and are only a kind of self-help system (Waltz 1979, reedited 2010). Furthermore, it is assumed that the hegemon cooperates only if its relative gains are higher than those of the other cooperating states. The cooperation leads to a hegemonic stability in which the hegemon provides (economically and military) security and sets the rules of the game.

Based on this realistic approach, Zeitoun and Warner developed a framework called *Hydro-Hegemony* (Zeitoun and Warner 2006) in order to understand water conflicts from this power politics perspective. Within this theory, the main focus lies on power asymmetries which shape the political question: “[W]ho gets how much of water, how and why?” (Zeitoun and Warner 2006: 435). Hydro-hegemony is defined as “hegemony at the river basin level, achieved through water resource control strategies such as resource capture, integration and containment […] enabled by the exploitation of existing power asymmetries within a weak international institutional context” (Zeitoun and Warner 2006: 435).

It is assumed that control over water resources is not achieved by waging war but by power-related tactics and strategies. This implies varying intensities of conflict – not war, but also not justly balanced cooperation (Zeitoun and Warner 2006: 436). The power relations between riparians are the main determinants for the level of control over water resources (Zeitoun and Warner 2006: 436). Zeitoun and Warner put forward two opposite ends of the term hegemony: At one end *leadership* based on authority, and on the other *dominance* based on coercion (Zeitoun and Warner 2006: 438). The hegemon defines the *rules of the game* and determines issues and non-issues (Zeitoun and Warner 2006: 438). “The dominative form of hydro-hegemony is thus associated with induced

relative scarcity for the weaker riparians and unstable hydro-relations" (Zeitoun and Warner 2006: 444).

There might be advantages and disadvantages for all states within a hegemonic situation depending on the configurations of hydro-hegemony that is "between the poles of enlightened leadership and oppressive domination" (Zeitoun and Warner 2006: 439). Positive results, including the provision of international goods like order and stability or even a kind of river regulation and management to the benefit of *free riding* weaker states, rest upon hegemonic stability theory. Negative outcomes of a hegemonic situation are that the power asymmetries further consolidate structural inequalities and that weaker states continuously lack control over decisions allocating resources. This might lead to tensions or conflict (Zeitoun and Warner 2006: 439). In every case it is assumed that the "[…] hydro-hegemon is always able to ensure a positive outcome – at least for itself. From its position of superior power, the hydro-hegemon may choose to enforce either a "negative" form of dominant hydro-hegemony or a positive form of hydro-hegemonic leadership, whereby all riparians benefit" (Zeitoun and Warner 2006: 437).

In order to understand the variety of intensity regarding this hegemony and its related conflicts, Zeitoun and Warner referred to different stages of conflict development: durable peace, stable peace, unstable peace, crisis and war (NATO 1999: 98, cited after Zeitoun and Warner 2006: 441). Those five stages can be grouped into three broad categories: no significant conflict, cold conflict and violent conflict. To distinguish these different types of conflict, Zeitoun and Warner draw on the *BAR water event intensity scale* and come up with a *conflict intensity frame*, which interlinks different conflict schemes:

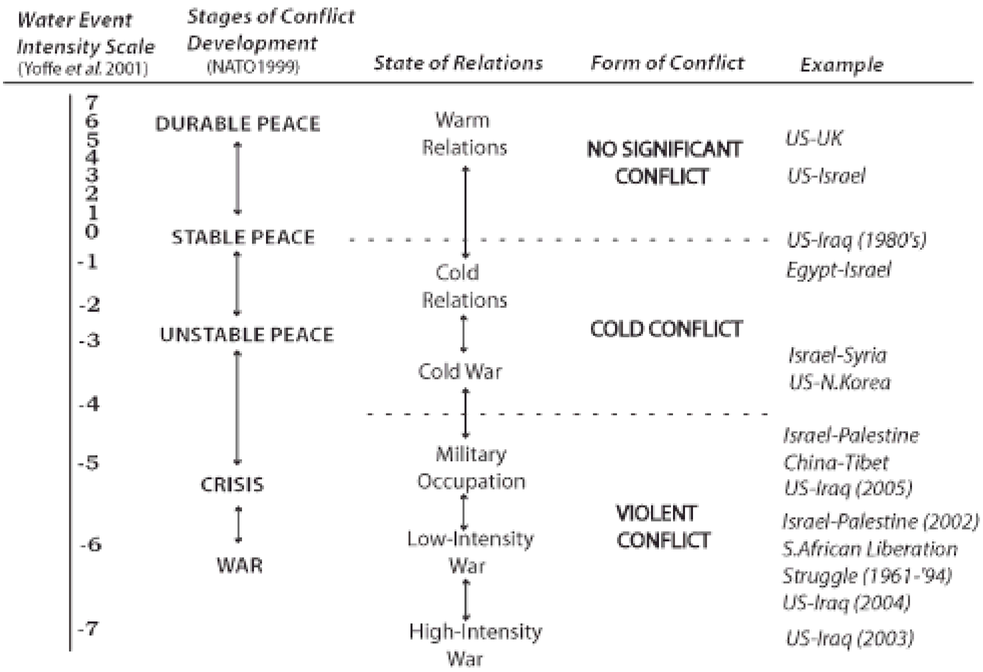


Figure 2: Conflict Intensity Frame

Source: Zeitoun and Warner 2006: 441

Since the hydro-hegemony concept is rooted in a power-based analysis, the researchers distinguish between *potential power* and *actualised power*. *Potential power* refers to the "[a]bility to possess and to mobilize capabilities, including military might, economic strength, modes of production, access to knowledge, political support and the rather more enduring features such as riparian position, size and value of territory […]." *Actual* power is linked to "[t]he second dimension of power" which "refers to control of the rules of the game" (Zeitoun and Warner 2006: 442).

If and when the riparians become more or less equal in terms of power and the established resource control becomes contested, this competition might lead to "either a reversal of the dominative form of hydro-hegemony or progression towards a leadership form" (Zeitoun and Warner 2006: 444).

In order to assure its hegemony, the hegemon applies *certain tactics of compliance-producing mechanisms* like *securitisation* (diverting public attention for the hegemon's needs*), knowledge construction* (use of different truths for different audiences), *sanctioning discourse* (room for discussion is created and ruled), *coercive resources* (the stronger the hegemon, the more resistant towards pressure from these sources), *pressure* (resulting from its international support or financial mobilization) and its *riparian position* (most static form of coercive resource) (Zeitoun and Warner 2006: 445). Based on these tactics, different strategies get some traction like *resource capture* (creating facts on the ground), *containment* (contain riparians in as asymmetric a position as possible) or *integration* (use of utilitarian mechanisms) (Zeitoun and Warner 2006: 444-445).

The degree of power-related ability to apply these different strategies and tactics shapes the interaction over transboundary water resources in the range of cooperation or competition, namely whether water resources are shared (cooperation), consolidated or contested (Zeitoun and Warner 2006: 443) and also determines the hegemon's decision to take a positive or negative form of hegemony.

Nevertheless, the non-hegemonic riparians have some counter-strategies they might apply based on their own abilities and interests, like seeking eye-to-eye level contact with hydro-hegemon – by using measures like morality and international law, economic development, alternative funding, etc. – and using agenda-framing (second-dimension) power (Zeitoun and Warner 2006: 454). Other anti-hegemonic resistance tactics include the "[…] effect of time, of silence, the *cost of no agreement* and methods of issue de-securitization" or Issue-Linkage (Zeitoun and Warner 2006: 456).

In summary, the following assumptions based on Realism and the Theory of Hydro-Hegemony will be used for application on the E-T Basin:

- There are different forms of hydro-hegemony or power politics. Whether the hegemon applies *leadership* based on authority or *dominance* based on coercion shapes the expectations of conflict and cooperation differently as well.
- There are intermediate levels between outright war and peace among the riparians: durable peace, stable peace, unstable peace, crisis and war. This classification of different stages of conflict can be grouped into three broad categories: no significant conflict, cold conflict and violent conflict. Such a categorization is likely to be important in order to search for even slight progress and to determine the different historical phases within the E-T Basin before searching for the reasons of conflict and cooperation.
- There are different tactics used by the hegemon in order to assure its supremacy like *certain tactics of compliance-producing mechanisms,* e.g. *securitization, knowledge construction* and tactics of coercive *resources* and *pressure* resulting from its international support or financial mobilization and its *riparian position.*
- There are different counter-tactics and strategies used by the non-hegemonic riparians like calling for morality and international law, economic development, alternative funding, etc., and using their agenda-framing power and some methods like de-securitization or Issue-Linkage of the conflict.

The Hydro-Hegemony concept offers some insights into the underlying problem structures and possible explanations of broader circumstances, but it is too deterministic and imprecise in the use of political science terms and offers few insights for an *explanation of Regime Formation.* Since *Regimes* are understood as institutionalised structures of interstate cooperation, which is the focus of the work, Regime Theory will

present the core of the theoretical background. The entire realistic school will not be the main theory in this study, but it will be used to supplement certain findings and explanations.

3.4. Institutional Approaches and Regime Theory

As shown, Realism does not go very far in explaining cooperation between states. On the contrary, it focuses on why conflict might be the norm between states. Other strands of IR theories, however, came up with explanations of the obviously occurring cooperation. This is true in particular for Neo-Institutionalism as the liberal branch within IR theories, which includes Regime Theory.

Since Regime Theory is the main underlying theory with which this work will approach the context of transboundary water issues within the E-T Basin, its central tenets will now be displayed in depth.

Its main assumption is that interdependencies and transnational relations lead to long-term cooperation, which creates institutions, which in turn boost interdependencies. Institutionalism "perceives cooperation as a product of shared demand" (Kipping 2009b: 678).

This theory had its origin in the 1970s based on the empirical evidence of the survival of regimes, which lack a hegemon or are characterised by a weak hegemon (e.g. General Agreement on Tariffs and Trade – GATT Regime).

In "After Hegemony" Keohane (Keohane 1984) provided the fundamentals of understanding institutions and their purpose in setting positive incentive structures within complex interdependencies for overcoming the insecurity of the anarchic system and maintaining norm-based systems of rules (Zangl 2006: 121). As one branch of Neo-

Institutionalism, Regime Theory defines regimes as “sets of implicit or explicit principles, norms, rules, and decision making procedures around which actors’ expectations converge in a given area of international relations” (Krasner 1983: 2). In this sense, regimes are institutionalised structures of interstate cooperation (List 2007: 226) or any kind of social institutions having those characteristics. Within this context, principles are understood as general standards of behaviour, norms as precise regulations of behaviour and rules as verifiable regulations of behaviour (after Zangl 2006: 123).

The liberal interest-based approach of Regime Theory states that cooperation in an anarchic system is doable even without a hegemon due to the existing “convergence of expectations” (Zangl 2006: 121). Regimes function as intervening variables between power structures and political outcomes and as catalysts of cooperation by establishing standards of behaviour.

Therefore, regimes increase the probability of cooperation by providing information about the other actors’ behaviour, by reducing transaction costs, by institutionalizing cooperation and generation of the expectation of cooperation among members, and by using iteration and importance of reputation (Zangl 2006: 129-130).

The assumed shared interest and the repetition or iteration of social actions are the main factors, which change the overall assumption towards cooperation. Due to the iterative nature of state relations, the actors are caught in an iterated Prisoner’s Dilemma and not a single-play one.

Within iterative relations, mutual cooperation is rational because today’s decisions have consequences for the future. Therefore, the sum of relatively small cooperative payoffs

over time might be greater than the gains of defection and the resulting chain of mutual defection (Axelrod 1984). This is what Axelrod called the *Shadow of Future* (Axelrod and Keohane 1985: 232), setting strong incentives for cooperation.

Further, Regime Theory assumes that states are rational, unitary, gain-maximizing actors and are living in anarchy. Furthermore, states are concerned about absolute gains and not relative ones in comparison to others. Due to the occurring iteration, international cooperation can be implemented and decentralised between nation states by using contingent strategies (Keohane 1984: 75-78, after Zangl 2006: 127). Achieving cooperation in one issue area makes cooperation in another arena even easier and more likely (Zangl 2006: 130). Further assumptions of regime formation are that the cost-benefit ratio of regimes is strongly influenced by the density of interdependency: the higher the interdependency, the more likely are the costs associated with regime formation to be paid off by the benefits (e.g. strong trade relations and trade regime) (Keohane 1984, after Zangl 2006: 132). Also, the distribution of power is seen as influencing the regime formation. This means that hegemonic distribution of power is not a necessary condition, but conducive to regime formation and maintenance (Keohane 1984: 31-46, after Zangl 2006: 133). This assumption is a further development of the theory of hegemonic stability.

Different variations of the Regime Theory research paradigm focus on different aspects. For example, they might focus more on game theory, inner-state constellations, problem structure or epistemic communities.

The inner-state constellation aspect takes the aforementioned Prisoner's Dilemma as a starting point in order to distinguish between dilemma plays constituted by incentives for states to drop out of already achieved cooperation and the associated fear of

defection by the others, and coordination plays in which there are no incentives for states to break out of the once-achieved cooperation and to defect (Zangl 2006: 135-136).

The *Two-Level Approach* of Regime Theory is concerned not only with different constellations of interests between states but *within* states, which assumes that regimes must conform with inner-state interests, but also can be fostered by inner-state interests (after Zangl 2006: 136). How these inner-state interests are shaped will be subsequently explored by the Theory of Constructivism.

The problem-structural approach focuses on the regime's aim of conflict resolution while defining conflict as differences over position or only partly compatible interests. Regimes therefore are instruments of cooperative conflict resolution. Points of conflict are shaping the likelihood of regime formation. This means conflicts of means are more likely to be solved than conflicts of interests (Zangl 2006: 136-137).

Based on game theory, some variations of Regime Theory deal precisely with transboundary water issues. Recent work done by Haftendorn, for example, explains that asymmetries of interest like the up-stream-down-stream constellation creates *rambo situations* which hinder cooperation (Haftendorn 2000: 62) and must be changed or balanced by additional incentives (Kipping 2009b: 678). These can later on pave the way to the concept of Benefit-Sharing and Issue-Linkage. Haftendorn shows that by transforming the conflict situation into a dilemma situation, in which it is in all parties' interests to cooperate, "[t]he dominant state relinquishes its hydrological advantage in return for specific rewards or political and material side payments […]" assuming "that a crucial precondition for any solution of the conflict would be its linkage to other aspects of a bilateral or multilateral relationship" (Haftendorn 2000: 62).

Haftendorn speaks of water regimes "when the affected states to a conflict observe a set of rules designed to reduce conflict caused by use, pollution or division of a water resource or the reduction of the standing costs and the observance over time of these rules. One should, however, distinguish between regimes that are drafted to deal with all future water conflicts and those that are specifically connected to a particular conflict" (Haftendorn 2000: 65).

Commemorating the different types of possible water conflicts, Haftendorn further states that "[…] in the case of a scarce and finite resource, the use of financial resources as a bargaining chip is limited as one cannot sell a resource that one does not have an abundance of" (Haftendorn 2000: 62). According to the above-mentioned structure of conflict, there are different possibilities for solving the water conflict. *Conflicts of use and pollution* are easier to deal with, e.g., by financially compensating the upper riparian for instituting antipollution schemes (Haftendorn 2000: 52). In dealing with *distributional conflicts* with upstream-downstream relation transformed to a dilemma situation, the likelihood of a "[…] solution will depend upon whether a consensual division of the costs can be realized and the parties to the agreement can be trusted to uphold and respect the terms of the agreement" (Haftendorn 2000: 63). Additional incentives stem from the change of the so-called *default condition,* a situation where the "lack of cooperation leaves all parties to the conflict in a worse-off position. A change in the default condition would therefore have a decisive influence on the development of the conflict and the willingness to reach a settlement in spite of the accompanying costs" (Haftendorn 2000: 64). These incentives to cooperate might be strongly influenced by the conditions in which the conflict is embedded and whether it is possible to change the structure of the preferences of the parties constructively

(Haftendorn 2000: 63). Those conditions refer not only to the bilateral ties between the riparians but as well to the presence of a facilitator or a change in the international or internal political framework (Haftendorn 2000: 63). In general it is assumed that conflict "[…] embedded within a larger regional or global problem complex tends to be intensified" (Haftendorn 2000: 63).

Haftendorn shows that the conflict structure (*Rambo* or *dilemma situation, embedded or not*) is the more decisive element than the type of conflict (use, pollution or distributional) (Haftendorn 2000: 64). Especially, the underlying structure distinguishes

> "[…] conflicts dealing with international rivers […] from other political conflicts as well as other environmental conflicts. As all running water conflicts are asymmetrical conflicts whereby the upper-lying state through hydrological means controls the quality and quantity of the water flow, the settlement of the conflict will be determined by the structure of the conflict and not the causes" (Haftendorn 2000: 68).

Because of those structural problems, Haftendorn suggests as a promising conflict-resolution strategy to look for other trade-offs between economic, ecological, social and political benefits. This might replace the asymmetrical structure with a more cooperative symmetrical structure, and it shows again the relevance of the Benefit-Sharing concept (Haftendorn 2000: 68).

Other strands of Regime Theory, like approaches toward epistemic communities, focus on the importance of the distribution of knowledge regarding the concerned issue: If the knowledge about certain problems and possible solutions is consensual, regimes are more likely to be established. Epistemic communities play an important role when coming up with this consensual or shared knowledge as they are functioning as a catalyst and mediator between different interests. This is especially crucial when

dealing with issues of complex cause and effect relations (Zangl 2006: 137-138). Such networks of epistemic communities "[…] mobilize and transfer knowledge about the problem at hand, initiate political campaigns and thereby contribute to a public debate that impacts on the evolution of the respective regime and should usually enhance its effectiveness" (Lindemann 2009: 703).

Besides the causalities of regime formation, Regime Theory focuses as well on the mechanism of regime compliances. Hereby hard and soft means are differentiated. Hard ones contain physical enforcement (e.g. the United Nations – UN sanctions against Saddam Hussein, armament and control regime), which is unlikely to take place since regimes are said to be established voluntarily. Softer mechanisms are economic and smart sanctions. The softest sanctions belong to the strategy of shaming and blaming, in which non-state actors play a crucial role as they do not have to take diplomatic considerations into account (List 2007: 232-233). In addition to this negative compliance, there are positive incentives for regime compliance: self-interest to interdependency, inner-societal opinion pressure towards norm compliance and therefore norm internalization by nation states (List 2007: 233).

In summary, the following assumptions based on Institutionalism and the Regime Theory will be used for the application on the E-T Basin:

- Interdependencies and transnational relations lead to long-term cooperation, which creates institutions, which in turn boost interdependencies. Cooperation is a product of shared demand and increased problem pressure, so in these terms water scarcity might increase the incentives for cooperation.
- Regimes are defined as "sets of implicit or explicit principles, norms, rules, and decision making procedures around which actors' expectations converge in a given

area of international relations" (Krasner 1983: 2). Regimes are institutionalised structures of interstate cooperation (List 2007: 226).

- Achieved cooperation in one issue area makes cooperation in another arena even easier and more likely – the so-called functional spill-over effects.
- Different constellations of interests *between* states and *within* states shape and hamper or boost cooperation and regime formation.
- It is the structure of a conflict (Rambo or dilemma situation, embedded or not) that is more decisive than the type of conflict (use, pollution or distributional) in determining the expectations towards conflict or cooperation. And conflict "[…] embedded within a larger regional or global problem complex tends to be intensified" (Haftendorn 2000: 63).
- Epistemic communities and other non-state actors might be very influential with regard to regime formation while functioning as a catalyst and mediator between different interests and therefore boosting cooperation.

Lindemann (2005, 2009) and Marty (2001) used all this theoretical armamentarium of Regime Theory to apply it more precisely to *Water Regimes*, which will be used here to assess the situation within the E-T Basin. Here, treaties and agreements "are conceptualized as water regimes defined as norm- and rule-based cooperation for the political resolution of problems and conflicts in the field of international river basin management" (Lindemann 2009: 700-701).

Lindemann's water regime research is guided by two main questions:

Under which conditions are the riparian states prepared to form institutions to address transboundary problems? (*Water Regime Formation*)

What are the determinants of the effectiveness of those institutions? (*Water Regime Effectiveness*) (Lindemann 2009: 701).

Since it is problematic to measure regime effectiveness due to unclear causal relations between the effects of a regime and the state of a given problem, a political interpretation of the problem-solving approach, which focuses on behavioural change, will be used here: “Regime effectiveness becomes the extent to which the water regime prompts behavioural change on the part of the relevant actors leading to an improved management of the respective problem” (Lindemann 2009: 701).

Marty and Lindemann identified five factors, or independent variables, which are determining regime formation and effectiveness: *problem factors*, *process factors*, *institutional factors*, *country-specific factors* and *factors of international context* (Lindemann 2009: 701).

Within the *problem factors* they distinguish problems related to transboundary externalities and collective problems. The former ones represent the core problem due to the upstream-downstream structure of international rivers (Lindemann 2009: 701). Negative externalities are caused by actions of upstream countries affecting the downstream country, imposing costs on it without compensation (e.g. pollution). Positive externalities may occur in the production of a public good for all riparians without a full pay-back for the efforts of the upstream country (e.g. flood control by dams). Common problems impose more or less equal costs on all riparians in the form of direct costs (e.g. common development projects) or opportunity costs (e.g. under-utilized river development potentials). Distinguishing between externalities and common problems sets the incentive structure: common problems provide symmetrical incentives, and externality problems usually cause asymmetrical incentives to take

action or to cooperate (Lindemann 2009: 701). In addition to the *mode of problem*, the *problem pressure* shapes the cooperative attitude in line with the perceived visibility of a given problem (e.g. recurrent floods or assumed scarcity in 20 years) (Lindemann 2009: 701). One assumption of this analysis is that the underlying problem factors, namely incentive structures and problem pressure, influence the prospects of regime formation (Lindemann 2009: 701).

But not only incentive structures and problem pressure are determining regime formation. *Process factors* play a role as well. Here Lindemann suggests to "focus on political tools that help to transform the given constellation of interests and thereby promote international water cooperation. These *process factors* can be divided into mechanisms to balance incentive structures and instruments to reduce the transaction costs of regime formation" (Lindemann 2009: 702; Marty 2001: 38ff.) Mechanisms to balance incentive structures may mean providing new or additional incentives in the form of direct (gained by agreements, e.g., side-payments) or indirect costs (issue-linkage, e.g., sanctions) (Lindemann 2009: 702). Instruments to counter-balance transaction costs include the reduction of information and negotiation costs, uncertainty, communication problems and fragmented decision-making.

Other factors to determine regime effectiveness are *institutional factors*. Stemming from a neo-institutional strand of IR Theories, Regime Theory allocates value to institutions by nature, but empirical evidence underpins the importance and causal relation of functioning institution and regime effectiveness summarized simply as *institutional design matters* (Lindemann 2009: 702).

In addition to the institutional factors, a variety of *country-specific factors* might determine the regime's effectiveness, such as cognitive-informational capacities,

political-institutional properties (especially political stability), the economic-technological context, the political culture and the individual leadership not only within the basin, but also within the particular riparian states themselves (Lindemann 2009: 703).

Furthermore, water regime effectiveness is influenced by *factors deriving from the international context*. An important first factor is the state of the bilateral relations between the riparians, which is shaped by historical and current interactions and conditions, including the patterns of communication and the level of trust. Precisely spoken, this refers to the existence or non-existence of foreign policy conflicts between riparian countries (Lindemann 2009: 703). Secondly, the influence of international organisations is crucial – whether they provide finances and support, technical and cognitive expertise – and whether they are perceived as independent actors or even mediators. A further influential factor deriving from the international context is the question of riparians' memberships or adherences with other international organisations and regimes. These might be able to influence riparians' attitudes towards basin cooperation. According to the above-mentioned branch of Regime Theory, which stresses epistemic communities, here the activities of non-state actors and their networks (NGOs, local interest groups, policy experts, academics, etc.) are also worth considering since they might shape the perceived international context by exercising their influence on the intrastate level and thereby co-determining foreign policy decisions.

The analytical knowledge of Water Regime Theory as laid out in this chapter will be applied within an *Analytical Framework Matrix* in order to expose it to the E-T Basin.

But as already shown, certain aspects of Regime Theory have inter-linkages with other theories and concepts like Constructivism and Benefit-Sharing, which are assumed to possess important explanatory power towards regime formation and related problems. Especially within the analysis of *country-specific factors* and *factors of international context*, Regime Theory is assumed not to be able to paint the whole picture of what might shape cooperation and conflict along transboundary waters. Constructivism and Benefit-Sharing are supposed to valuably supplement such aspects. Therefore, they will be scrutinized in the following section.

3.5. Constructivist Approaches

Directly coming to the initial point of Constructivist Research, the perception of conflict and cooperation plays the major role. The *cognition of reality* functions as the core element to explain international politics based on self-perception (role, identity, interests) and social perception.

Therefore, constructivists initially came to a different opinion of the assumed anarchy of the international system and its conflict nature as put forward by realist scholars: From a constructivist point of view "*Anarchy is what states make of it"* (Wendt 1992). Anarchy therefore is not regarded as an explaining force for state behaviour. Rather the processes of social interactions and constructions of *perceived reality*, which are taking place in certain structures, are constitutive for the mode of actions and behaviours among different actors (Ulbert 2006: 415-416). Processes of learning might change perceptions. In general, the world is shaped by these different positions and constructions, but it is changeable.

From this perspective, international relations are explained differently: The focus lies on changing international politics within prevailing structural settings. Norms as shared

(social) understandings of standards and behaviour are constitutive elements for defining national interests. International norms are not binding for national states, but for shaping national identity and legitimate policy options.

The *Theory of Constructivism* with its special focus on the theories of the development of norms and norm entrepreneurs will be applied subsequently due to its explanations of states and their actions. These are thereby not perceived as *Black Boxes*, but as driven by actors and interest groups, which are shaping the reality of cooperation or conflict. Hereby cooperation might be assumed as a value in its own right and therefore political leitmotifs shape the decision-making process. Furthermore, regional cooperation is perceived as a part of foreign policy that is shaped by domestic polity and politics.

Social Constructivism assumes that reality is constructed by actions and shared visions of actors and that interests and ideas are built upon processes of social interactions (Ulbert 2006: 409). Therefore, it is assumed here in reference to Regime Theory that the interests of states are not static and given. Regimes not only reflect the interest of states, but in turn shape and change them and can even be constitutive for their interests (Zangl 2006: 139-140). Constructivists are not only assuming states as rational, interest-driven actors, but also as actors influenced by argumentative behaviour ('Theories of Communicative Actions', Zangl 2006: 139-141).

Contrary to Realism and further development of Neo-Institutionalism, Finnemore and Sikkink agreed that the "[...] international structure is determined by international distribution of ideas. Shared ideas, expectations, and beliefs about appropriate behaviour are what give the world structure, order, and stability [...]. In an ideational international structure, idea shifts are the main vehicles for system transformation. Norm shifts are to the ideational theorist what changes of power are to the realist"

(Finnemore and Sikkink 1998: 894). Within this approach, norm entrepreneurs and NGOs play a significant role, as do intentional motives like prestige, international acceptance and culture, which set incentives or obstacles for cooperation (Finnemore and Sikkink 1998). Within a transnational process of norm establishment, transnational actors (like NGOs, institutions, transnational companies, etc.) have a crucial role as transmitters. Especially International NGOs (INGOs) and scientific networks are crucial actors due to their functions of international agenda setting, establishment of policy and transnational advocacy networks (Brühl 2003: 163). Such findings and assumptions will be used in order to supplement the Regime Theory-based Analytical Framework with special references towards the explanation of the *Factors of International Context* and changing prospects of cooperation.

Regarding the aforementioned regime approach of *Epistemic Communities*, Constructivism not only highlights its origin of thought in the importance of perceptions, but delivers a valuable definition since they are defined here as “network[s] of professionals with recognized experience and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area.” (Haas 1995:179, after Brühl 2003: 165). Within this social process of conflictive issues for *policy innovation*, actors like NGOs and epistemic communities add different views establishing a new *framing* of a conflict and spread their views by *policy diffusion*. Thereby they can reshape negotiations within a certain regime, but the actual policy selection remains with the state decision-makers (Brühl 2003: 166). Brühl proved this influential importance of INGOs and epistemic communities by an investigation into different regime formation processes within the arena of global environmental policy (such as the Post-Rio-Regimes, e.g. climate negotiations, bio-diversity) and the given participation right for NGOs within the actual UN System (Brühl 2003). Such

assumptions will be scrutinized within the analysis of the *Country-Specific Factors* and the *Factors of International Context* for transboundary water cooperation.

According to Constructivism, it is the way international actors like nation states perceive each other – as enemies, rivals or friends – which defines how they will deal with conflicts – violently or constructively (Ulbert 2006: 421). Furthermore, Constructivism provides a valuable supplementation of the above scrutinized Regime Theory since the demand for regime formation is not a given fact, but must be perceived as such and politically articulated through agenda setting (List 2007: 228). Especially with respect to a more cooperative attitude on the part of the E-T Basin's riparians, it will be shown that the diversification of non-state and state actors and international norms are partly accountable for this recent change.

In summary, the following assumptions based on Constructivism and Theory of Norm Development will be applied to the E-T Basin in order to supplement the Regime Theory-based Analytical Matrix:

- The iterations of international relations cause processes of social learning among its actors. Nation states are not *Black Boxes*; the socio-political context, perception and the environment matter as well. Interests of states are not static and given. Regimes not only reflect the interest of states, but also in turn shape and change them and can even be constitutive for their interests.
- Within this transnational process of norm establishment, transnational actors – NGOs, civil society movements and epistemic communities – have a crucial role as transmitters and, in terms of reframing the international agendas, in the establishment of policy and transnational advocacy networks.

- It is the perception (self-perception [role, identity, interests] and social perception) of conflict and cooperation that determines the expectations toward conflict and cooperation: From a constructivist point of view, *conflict is what states make of it.*
- Cooperation might be a value in its own right and therefore political leitmotifs shape the decision-making process.

Especially the factors deriving from the international context and the country-specific factors within the Analytical Matrix will be analysed based on a constructivist perspective, since constructivists focus on the explanations of changes of ideas, identities and norms (Ulbert 2006: 419).

3.6. Economic and Multidisciplinary Approaches

As Regime Theory focused on problems of trust regarding regime formation, criticism arose by scholars of neo-realism highlighting the problems of distribution. While Neo-realists assume that states are concerned with the question: *Who will gain more?*, the concept of Benefit-Sharing can be seen as an answer to the neo-realist explanatory gap for empirical evidence of cooperation. The concept of Benefit-Sharing postulates that international regimes will be more likely to be successful if the gains from cooperation are distributed *equally* among the states (Zangl 2006: 139).

Not only because Benefit-Sharing is today’s discursive frame of transboundary water management (Klaphake 2006), but also due to its practical approaches for analysing transboundary water issues and offering new incentives for cooperation, it is chosen as a supplementary theory within this work. Based on an economic analysis of transboundary water cooperation with regards to game theory, it combines political science research of international regimes with conflict research, here especially with

research of *conflict transformation* and *Alternative Dispute Resolution* (Klaphake 2006).

As a predominantly economic concept, Benefit-Sharing is based on the assumption that "[n]on-cooperation costs result primarily in inefficient water management, leading to decreasing water quantity, quality, and environmental health. But political tensions can also be impacted, leading to years or even decades of efficient, cooperative futures lost" (Wolf 2007: 3.8). On the contrary, cooperation is perceived as a positive sum game, but connected to crucial distributional problems if pure water allocation issues stand in the focus of negotiation. Therefore, Benefit-Sharing assumes that "[…] countries should focus less on the potentially conflictive issue of water allocation than on the benefits that may accrue to all parties if they reach agreement on some form of joint management" (Klaphake 2005: 107).

Following this, Klaphake defines Benefit-Sharing as a mechanism to share gains of cooperation with the underlying imperative not to share the water quantities (zero-sum game), but the advantages of its use (positive sum game). This concept deals with the premises that 1) cooperation generates benefits, 2) the gains of cooperation are measurable and sharable and 3) all parties could be better off compared to non-cooperation (Klaphake 2006).

Although Benefit-Sharing was applied in practice intuitively for a long time, precise conceptualisation has been missing. Sadoff and Grey from the World Bank (WB) undertook some efforts to develop a conceptual framework (Sadoff and Grey 2002 & 2005). Based on the assumption that the political choice between conflict and cooperation is mainly determined by the perceptions of the possible relative benefits for the riparians, they provided a systematic range of possible benefits. This range includes

benefits to the river (better management of ecosystems), *benefits from the river* (e.g., management and development of shared rivers might increase food and energy production), reduction of costs *because of the river* (due to cooperation and less conflict) and *benefits beyond the river,* if international rivers function as *catalytic agents* and lead to cooperation in other arenas like economic integration (Sadoff and Grey 2002: 389).

Table 2: Types of Cooperation and Benefits on International Rivers

Type	The challenge	The opportunities
Type 1: increasing benefits to the river	Degraded water quality, watersheds, wetlands, and biodiversity	Improved water quality, river flow characteristics, soil conservation, biodiversity and overall sustainability
Type 2: increasing benefits from the river	Increasing demands for water, suboptimal water resources management and development	Improved water resources management for hydropower and agricultural production, flood-drought management, navigation, environmental conservation, water quality and Recreation
Type 3: reducing costs because of the river	Tense regional relations and political economy impacts	Policy shift to cooperation and development, away from dispute/conflict; from food (and energy) self-sufficiency to food (and energy) security; reduced dispute/conflict risk and military expenditure
Type 4: increasing benefits beyond the river	Regional fragmentation	Integration of regional infrastructure, markets and trade

Source: Sadoff and Grey 2002: 393

Within this range of different types of benefits perceived, benefits might be anything to which societies attach value (Sadoff and Grey 2002: 396). Special attention is given to the *costs because of the river,* because often they are hidden but extremely costly and therefore may be especially precious if turned into benefits. Such costs of the river may include tensions between the riparians, which in turn have significant influence on the political economy of a region leading to a fragmentation of markets, infrastructure,

telecommunications, transport connections, labour flows and financial systems. Those fragmentations may further lead countries to introduce strategies of self-sufficiency, rather than of trade and integration, which often is economically not feasible and puts even more pressure on the scarce (water) resources (Sadoff and Grey 2002: 398).

Overcoming those patterns can lead to significant *benefits beyond the river* and result in "[…] political processes and institutional capacities that themselves open the door to other collective actions, enabling cross-border cooperation beyond the river" and "[…] enable broader economic growth and regional integration that can generate benefits even in apparently unrelated sectors" (Sadoff and Grey 2002: 399). Therefore, the greatest gains of cooperation on transboundary waters "[…] will derive from apparently unrelated development that would never have been considered had tensions over shared waters remained between nations" (Sadoff and Grey 2002: 401).

In addition to the different types of Benefit-Sharing, Klaphake distinguishes two main forms of Benefit-Sharing: immediate transboundary compensation and linking a given cooperation with cooperation on another project. Such categorizations are valuable for both the analysis of benefits to be gained by cooperation and – with regard to Issue-Linkage – the analysis of how water issues are interlinked with other issues – either negatively as being obstructive towards cooperation or positively as being conducive towards cooperation.

Table 3: Different forms of Benefit-Sharing

Benefit-sharing Mechanism		Examples of applications
1. Compensation	Monetary	Untied international financial transfers
		Sharing of project costs for infrastructure financing or other measures (e.g. reduction of harmful discharges)
		Payments for water-use rights to their previous holders
		Acquisition of shares / joint ventures /direct investments
		Price- and/or quantity-related agreements on deliveries of water or energy
	Non monetary	Assignment of water-use rights
		Agreement on quantitative allocation energy
2. Issue-Linkages	Within water sector	Realization of tradeoff deals with opposite cost-benefit allocation (e.g. improvement navigability to sea against reduction of discharges on upper course)
		Concessions on water allocation in other river basins
	Outside of water sector	Trade concessions, transportation agreements, immigration issues, border controls, supply agreements (e.g. energy, oil), and the like

Source: Klaphake 2005: 113

The analytical dissection applied by Issue-Linkage also remains valuable when considering the needed links towards international water law. Here the interpretation of water rights and acceptance or non-acceptance of international water law by the riparians is said to be highly influential for further linkages of water issues, being either constructive or obstructive towards cooperation.

Therefore, Issue-Linkage is discussed within the Benefit-Sharing concept. Upstream riparians usually claim "that water rights originate where the water falls" (Wolf 2007: 3.9) and invoke an *absolute territorial sovereignty*. To the contrary, downstream riparians usually invoke an *absolute territorial integrity*, that is "[…] claiming rights to an undisturbed system or, if on an exotic stream, historic rights on the basis of their history of use" (Wolf 2007: 3.9).

Although today's international (water) law is based on the principle of *limited territorial sovereignty* and thereby calls for all riparians' rights and duties, which are anchored in the no-harm-principle, to be taken into account, it is not yet sufficient as an institution of real and binding enforcement. Therefore, especially the Benefit-Sharing concept calls for moving away from this property-based approach to approaches of needs in order to overcome the cost of non-cooperation (Wolf 2007: 3.9).

In contrast to rights focusing on certain allocations due to hydrography or chronology of use, needs are oriented toward irrigable land, population or the requirements of a specific project (Wolf 2007: 3.9). This shift from rights to needs offers an advantage, as "[…] rights are not quantifiable and needs are" (Wolf 2007: 3.11). Even better and more productive than shifting to needs is looking at the overall benefits in the basin from a regional approach and afterwards trying to share them equally and fairly (Wolf 2007: 3.11).

Additional to the problem structure and the perception of possible benefits, there are further challenges of applying Benefit-Sharing: There is the necessity to negotiate both rights to water use and distribution of benefits. The benefits must be tangible for influential actors, because it is not *states*, which have benefits, but actors, organisations or entities. Therefore, multi-track communication is often necessary (Track 1 – Government; Track 2 – Scientists, Associations; Track 3 – Grass-roots Level). Not all benefits are quantifiable or immediately tangible (Klaphake 2006). Furthermore, one has to be aware of the different styles employed in negotiations on benefits compared to water rights (Klaphake 2005: 114). Such assumptions will be scrutinized within the analysis of the *Process Factors* and *Country-Specific Factors* for transboundary water cooperation.

It also can be said that there is a greater chance of applying Benefit-Sharing with growing water scarcity, because this increases the potential of cooperation-related benefits. “[W]ater scarcity increases the relevance of the logic of economic efficiency in resource use in connection with compensation mechanisms” (Klaphake 2005: 115).

Since it is assumed that third parties can play a crucial role in making benefits tangible and reachable, there are some implications or strategies for such parties, such as actors involved in development cooperation (DC). A move from positions to interests and needs of the riparians should be supported, connections to other arenas of regional cooperation should be underpinned, Benefit-Sharing mechanisms should be integrated in a holistic development approach reached through a multi-stakeholder process and monitoring and evaluation of the negotiation and implementation process should be provided (Klaphake 2006).

Having all the different types and forms of Benefit-Sharing in mind and being aware of the different underlying problem structures, Sadoff and Grey developed a model of modes of cooperation (Sadoff and Grey 2005). This model still deals with Benefit-Sharing, but also shows that different circumstances may need and lead to different degrees of cooperation. The various modes of cooperation that could be adopted are determined by the appropriate type of cooperative effort to achieve a particular goal. And the optimal type of cooperation will vary with hydrologic and investment opportunities.

Therefore, cooperation might range from unilateral action (independent, non-transparent national plans), coordination (communication and information on national plans) and collaboration (adaptation of national plans for mutual benefits) to really joint action

(joint plans, management or investment) (Sadoff and Grey 2005: 5). The stages of cooperation are non-directive, dynamic, and iterative (Sadoff and Grey 2005: 5).

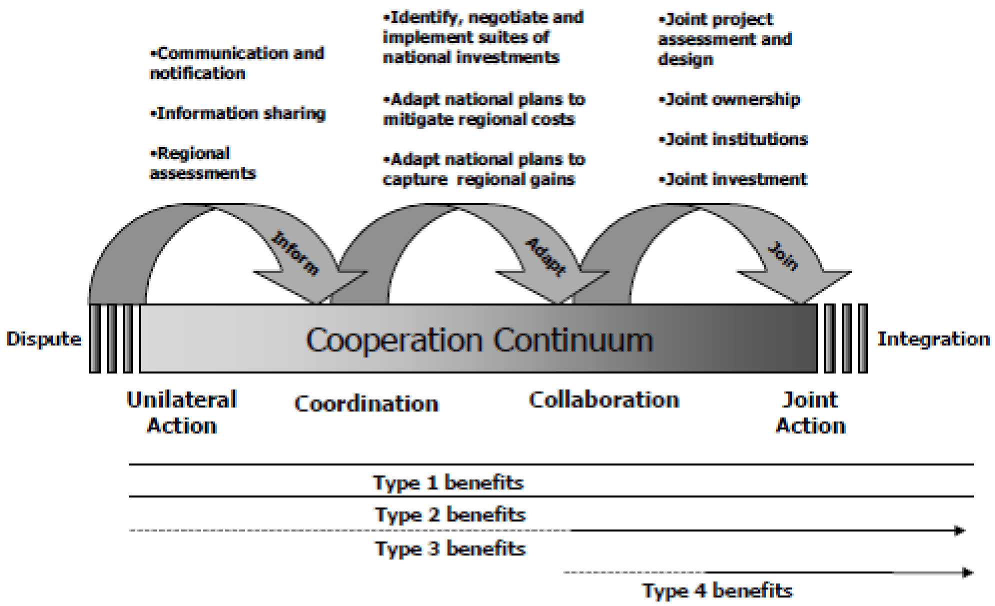


Figure 3: Continuum of Cooperation

Source: Sadoff and Grey 2005: 5

In summary, the following assumptions based on the concept of Benefit-Sharing and Issue-Linkage will be applied to the E-T Basin study in order to supplement the Regime Theory-based Analytical Matrix:

- Cooperation is a positive sum game, wherein all actors might gain if benefits are distributed equally.
- Analytically, different types of benefits can be distinguished: *benefits to the river* (better management of ecosystems), *benefits from the river* (e.g. management and development of shared rivers might increase food and energy production), reduction of costs *because of the river* (due to cooperation and less conflict) and *benefits beyond the river* (international rivers function as *catalytic agents* for cooperation in other arenas).

- Analytically, different forms of Benefit-Sharing can be distinguished: Compensation (monetary and non-monetary) and Issue-Linkage (intra- and inter-sector). These categories can be used to search for both possible incentives for cooperation and factors that hamper linkages.
- Moving away from property-based approaches to approaches of needs regarding water allocation enhances the prospects of cooperation.
- There is a greater chance of applying Benefit-Sharing with growing water scarcity, because this increases the potential of cooperation-related benefits. This goes along with the Anti-Malthusian Approach.
- Third parties like development cooperation, NGOs, mediators, etc., can play a crucial role in making benefits tangible and reachable.

3.7. Empirical Evidences from Other Cases

In the following chapter, some further explanations from already undertaken case studies will be added in order to group them among the five Regime Theory-based factors of regime explanation since it is assumed that Regime Theory, Constructivism and Benefit-Sharing are highly valuable but not sufficient to provide a comprehensive picture of factors hampering and supporting cooperation along transboundary waters**.**

Within the first systematic analysis of different case studies of transboundary water cooperation, LeMarquand (1977) provided, *inter alia*, a foreign policy set, which is built upon items like image, international law, linkages, reciprocity and sovereignty and shapes the attitude of the riparians towards transboundary cooperation (LeMarquand 1977: 11-15). Additionally, he included domestic policy-making and consensus formation as important factors for inner-state issue shaping. Out of these analytical pillars, LeMarquand developed an analytical framework, which goes in the direction of

the work done by Marty and Lindemann on water regime explanations. The framework compiles categories like services, externalities, linkages, political demands, foreign policy, information uncertainty and exogenous uncertainty (LeMarquand 1997: 19-22). He furthermore found empathy and shared perceptions of problems between the riparians to boost cooperative attitudes: "If both countries can gain or lose by the actions of the other, there is a strong motivation to reach agreement. Where competing interest groups within the basin countries can all benefit from agreement through a distributional accommodation, the prospect for getting support for agreement will be good" (LeMarquand 1997: 131). Thereby, LeMarquand pointed to the importance of intra-national negotiation processes on cooperative attitudes.

The macro-quantitative analysis of the aforementioned BAR project (Wolf et al. 2003) and its assessment of "all reported events of either conflict or cooperation between nations over water resources over the last fifty years" came up with indicators "for basins at greatest risk of dispute in the near future" (Wolf et al. 2003:1). The researchers found that

> "[…] most of the parameters regularly identified as indicators of water conflict are actually only weakly linked to dispute, but that institutional capacity within a basin, whether defined as water management bodies or treaties, or generally positive international relations, is as important, if not more so, than the physical aspects of a system. It turns out, then, that very rapid changes, either on the institutional side or in the physical system, are at the root of most water conflict, as reflected in two sets of indicators:
>
> 1. "Internationalized" basins, that is, basins which include the management structures of newly independent states.
>
> 2. Basins that include unilateral development projects and the absence of cooperative regimes.
>
> (Wolf et al. 2003: 1)

In this sense the BAR project came to the conclusion that the likelihood and intensity of dispute rises as the rate of change within a basin exceeds the institutional capacity to absorb that change (Wolf et al. 2003: 10). Put differently: Institutions matter! (Wolf et al. 2003: 12) Institutional capacity is a driver of either conflict or cooperation (Wolf et al. 2003: 16).

Building on their overall findings, Wolf and his team identified characteristics of basins that tend to deal in a cooperative way with occurring problems or changes. Such basins should have international agreements and institutions, a history of collaborative projects, generally positive political relations and higher levels of economic development (Wolf 2007: 3.12).

On the contrary, basins at risk of choosing a conflictive way of dealing with occurring problems or changes might be characterized by rapid environmental change, rapid population change or asymmetric economic growth, major unilateral development projects, the absence of institutional capacity and generally hostile relations (Wolf 2007: 3.12-3.13).

In his analysis of the concept of Benefit-Sharing and twenty-three case studies, Klaphake found *factors central to reaching agreement on benefit-sharing mechanisms* (Klaphake 2005: 148) offering a further explanatory value. According to Klaphake, the following factors are obstructive towards Benefit-Sharing: claims of sovereign national water rights, water projects as prestige projects (having a hidden agenda or functioning as a highly symbolic tool of national autonomy and sovereignty), external obstacles (like generally tensioned bilateral relations), uncertainty of the possible benefits, project costs and of strategic behaviours, weak administrative capacities, low economic capacities and lack of creditworthiness, unequal negotiating situations due to distinct

disparities in development levels and one-sided water-policy constellations (Klaphake 2005: 149-154).

Conducive factors for Benefit-Sharing are, for example, the existence of confidence-building forums and organisations, a functional focus as a gateway within the negotiations, development perspectives of the riparians with a similar orientation and parallel development strategies, valuable organisational prerequisites, accepted international water law as orientation (like the obligation to share information and on public participation), the role of third parties, e.g., donor organisations as mediators or facilitators, fairness especially in terms of equity and political communicability, external events as windows of opportunity (like floods, extreme droughts, etc.) for a new orientation of cooperative priorities, the influence of regional interests guided by positive political rationales and the inclusion of other river basins (Klaphake 2005: 156-161).

In another empirical work, which he conducted together with Scheumann, Klaphake spelt out some *Evidences from Africa* regarding transboundary water cooperation (Klaphake and Scheumann 2006).Here the authors identified key drivers for and constraints to the formation of transboundary water regimes. They pointed to the relevance of a regional integration process, which might “reduce transaction costs of water cooperation and make cooperation more likely and stable” (Klaphake and Scheumann 2006: 20) as Institutionalism would have expected. They also found that the role of a regional hegemon is more ambivalent than assumed in Realist Theory. One case – South Africa – supported the thesis of a hydro-hegemony having interest in cooperation and therefore promoting or even forcing it, but in other cases, “cooperation [...] cannot be interpreted as the expression of the long-term strategic interests of the

regional hegemon, i.e. Senegal." And some cases even showed "[…] that a weaker downstream state can strengthen its position vis-à-vis a stronger upstream riparian (Namibia), if the latter fears the threat of losing international reputation and economic benefits (tourisms industry) by pursuing unilateral actions "(Klaphake and Scheumann 2006: 21).

Scheumann and Klaphake also found evidence of the postulated importance of "[…] internal political processes (democratization, liberalization) in the countries concerned, which promoted the development of water agreements in parallel" (Klaphake and Scheumann 2006: 22). According to the authors "[…] international water cooperation mirrors the inner life of the states concerned, i.e. national political processes, the style of national policy formulation, the role and influence of different political actors, and the administrative capacities on the national or regional level" (Klaphake and Scheumann 2006: 5). They also found that rent-seeking behaviour of actors, clientelism and the politically symbolic value of water infrastructure were influential (Klaphake and Scheumann 2006: 22). But they argued as well that water cooperation and "in particular the conflicts regarding the social and environmental effects, […] might change from purely intergovernmental negotiations and administrative actions to a multi-actor setting with intensive public debates, several forms of public participation and intense negotiations between civic society actors and state actors" (Klaphake and Scheumann 2006: 22). This underpins not only the importance of donors, but also of civil societies and NGOs in particular and is based upon assumptions that "[…] decision-making in water management occurs within a system of multi-level governance involving a large number of actors. Different actors, including government agencies, associations, civil societies, academics, media etc. form advocacy coalitions on the basis of shared beliefs and values, i.e. coalitions are networks of actors and organisations who share a similar

perspective and forge relationships with each other" (Klaphake and Scheumann 2006: 6).

Such findings support the selected theoretical approaches in terms of the potential for cooperation. Especially as Constructivism does not perceive nation states as Black Boxes and shows that different attitudes and barriers toward cooperation exist not only between states but *within* states: "In this concept, water management issues are not only conceptualized as interest conflicts in a narrow sense but as the expression of diverging normative-cognitive perception of different networks" (Klaphake and Scheumann 2006: 6).

- In another study by Kipping analysing cooperation and conflict at the river Senegal (Kipping 2005), he analytically proved certain hypotheses, which also will be useful for the research conducted in this work. In line with the Anti-Malthusian view also put forward in this work, he clearly showed that water scarcity was a necessary condition for the close interstate cooperation of the riparians due to 1) the greater incentives of the regional hegemon to cooperate in order to utilize the resources efficiently (realistic explanation), 2) greater incentives caused by a greater problem pressure and the provision of external invention and institutionalized cooperation (institutionalist explanation) and 3) certain clientele groups gaining influence through the scarcity conditions and having interest in conducting cooperation (liberal explanation) (Kipping 2005: 56-57). In summary, the following assumptions based on the Lessons Learned from other cases will be applied to the E-T Basin case study in order to supplement the Regime Theory-based Analytical Matrix: Foreign policy issues like image, international law, linkages, reciprocity and sovereignty shape the attitude of the riparians towards transboundary cooperation.

- Rapid changes on the institutional side or in the physical system, including internationalization of basins or unilateral development are the main triggers of conflict.
- (Institutions matter!) Institutional capacity is a driver of either conflict or cooperation.
- Riparians characterized by rapid environmental change, rapid population change or asymmetric economic growth, major unilateral development projects, the absence of institutional capacity and generally hostile relations, tend to deal in a conflictive way.
- Further factors obstructive towards cooperation are: claims of sovereign national water rights, water projects as prestige projects, external obstacles, uncertainty of the possible benefits, unequal negotiating situations due to distinct disparities in development levels and one-sided water-policy constellations.
- Riparians which have other international agreements and institutions, a history of collaborative projects, generally positive political relations and higher levels of economic development tend to deal in a cooperative way.
- Further factors conducive to cooperation are: similar orientation and parallel development strategies, valuable organisational prerequisites, accepted international water law, the role of third parties, e.g., donor organisations as mediators or facilitators, external events as windows of opportunity, overall positive political rationales, regional integration processes and internal political processes like democratisation and liberalisation.

3.8. Résumé: Analytical Framework Matrix and Theses

Based on the present political science assessment of transboundary water cooperation, the gained knowledge shall be applied in a systematic way to the Euphrates-Tigris Basin. Therefore, it seems valuable to shortly summarize the theoretical findings, to present the analytical framework to be applied, to display the condensed hampering and

supporting factors for transboundary water cooperation and, last but not least, to state the theses developed, which will be analysed within the case study.

First, important underlying definitions show that conflictive political and institutional issues belong to the multipurpose nature of water, but, depending on the social capacities of conflict management, they are played out negatively or positively.

Valuable differentiations of types and causes of water conflicts were presented, distinguishing between conflict through use, conflict through pollution, relative distribution conflict and absolute distribution conflict. Subsequently the thesis of assumed water wars was disproved by showing that the empirical reality provides much more evidence for water as an incentive for dialog and cooperation, especially if the (perceived) problem pressure increases due to scarcity or deterioration of water resources.

Having the task to scrutinize hampering and supporting factors of this assumed water cooperation, the main theories of IR were analysed in this regard. Mainly based on Regime Theory, certain factors of water regime formation and water regime effectiveness were found in order to get a holistic and systematic scheme with which to analyse the conflict and cooperation processes within the E-T Basin. Since “water regimes [are] defined as norm- and rule-based cooperation for the political resolution of problems and conflicts in the field of international river basin management” (Lindemann 2009: 700-701), those particular factors are *problem factors* (underlying problem structure), *process factors* (political attitude and factors towards cooperation), *country-specific factors* (countries’ capabilities and political and socio-economic structures), *factors of international context* (bi- and multi-lateral relations, international organisations and circumstances) and *institutional factors* (ability of given regime structures).

In order to secure a holistic perspective on the possible explanation of the particular factors supplementary to Regime Theory, Constructivist aspects and aspects of the multi-disciplinary concepts of Benefit-Sharing and Issue-Linkage were added. Here especially the Theory of Constructivism provides deeper insights into a given state's attitude towards cooperation, when not perceived as a Black Box, but as different social actors with different and changing interests. Benefit-Sharing and Issue-Linkage were explained firstly in order to understand the complex process factors of the basin's conflict and the cooperation history and, secondly, to offer possible solutions and strategies for boosting cooperation within the basin.

In order to undertake this assessment, the following two questions will lead the research:

Research Question 1: *Which were / are the main factors of conflict and cooperation in the E-T Basin in the past and in recent years?*

Research Question 2: *What are the potential and limits of the theories of transboundary water cooperation for the understanding of the E-T Basin.*

Thereby the following hypotheses will be analysed based on the selected theories:

1. *Within the E-T Basin a shortage of water resources and deterioration in terms of quality are at present more likely to be driving forces of cooperation than of conflict (Regime Theory).*

2. *Existing other regimes (e.g. economic) are reshaping water cooperation: spill-over effects and vice versa (Regime Theory).*

3. *Recent developments from military security to development perspectives offer new perspectives for water allocation (Constructivism).*

4. *The diversification of actors and their interests and values are reshaping the regional cooperation attitude (Constructivism).*

5. *Water was and is always issue-linked. What counts is the positive or negative perception of it (Benefit-Sharing / Issue-Linkage).*

6. *Shared interests prevent conflicts from erupting into violence (Benefit-Sharing / Issue-Linkage).*

These hypotheses and the research questions will be answered constitutively drawing upon an Analytical Framework Matrix applied on the E-T Basin according to the displayed factors of regime explanation that are based on the contributions of Lindemann and Marty and on supplementary explanations stemming for the Theory of Constructivism and the Concept of Benefit-Sharing.

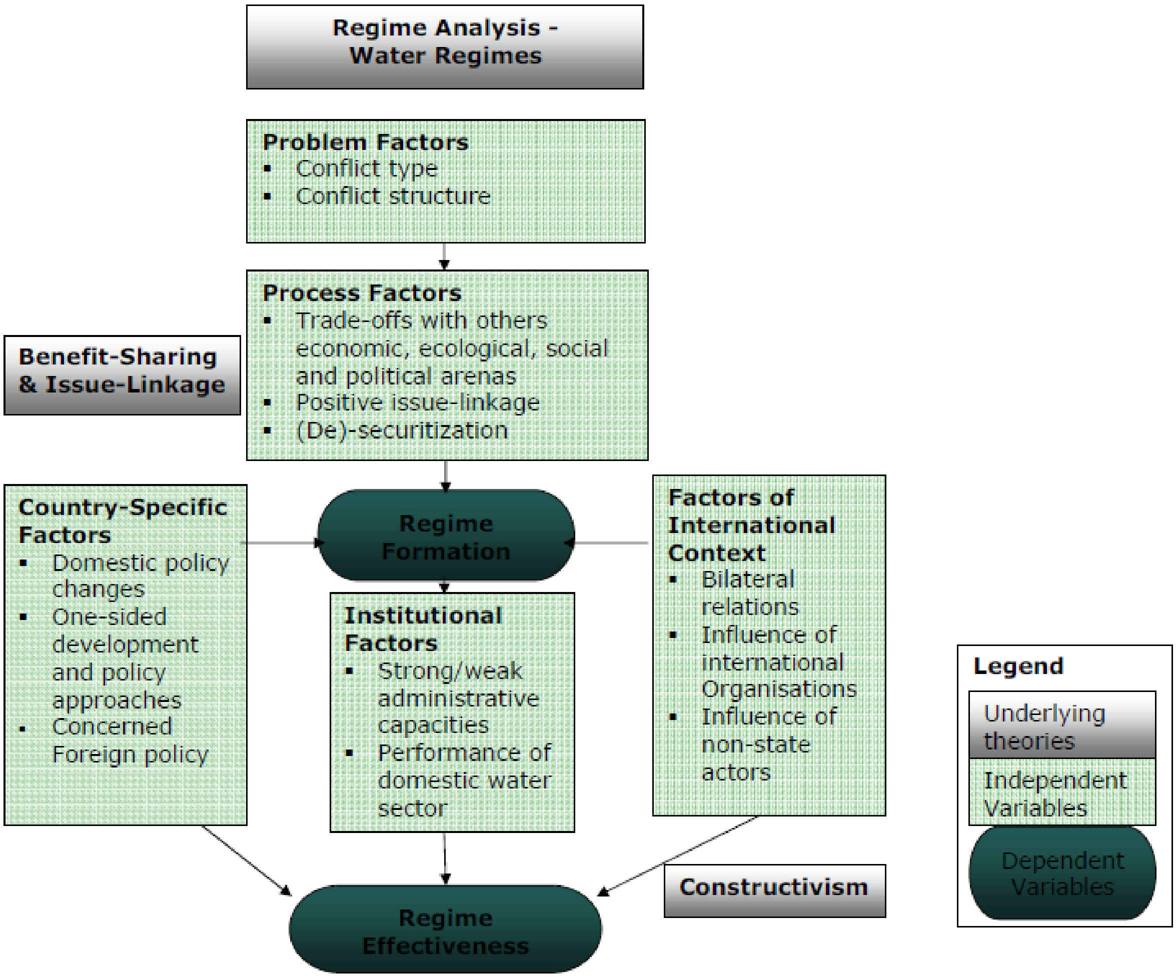


Figure 4: Analytical Framework Matrix

Source: Own scheme adapted after Lindemann (2005, 2009) & Marty (2001)

According to the matrix's factors of regime formation and regime effectiveness, the scrutinized theories and literature offered the following factors obstructive or conducive

to transboundary water cooperation, which will be tested regarding their explanatory force for the E-T Basin:

Table 4: Obstructive and Conducive Factors for Cooperation

Factors of regime formation and effectiveness	**Obstructive towards cooperation**	**Conducive towards cooperation**
Problem Factors **(Regime Formation)**	Conflict type: ▪ Absolute distribution conflict Conflict structure: ▪ Disputed water rights ▪ Non-acceptance of international water law ▪ Dominance of regional hegemon based on coercion ▪ Conflict embedded in a larger regional or international conflict ▪ (Newly) "Internationalized" basin ▪ Unilateral developments projects ▪ Water projects as prestige projects	Conflict type: ▪ Relative distribution conflict ▪ Conflict of use ▪ Conflict of pollution Conflict structure: ▪ Water rights ▪ Acceptance of international water law and recognition of common needs and interest ▪ Positive hegemony or leadership based on authority ▪ High cost of non-cooperation ▪ Dilemma situation of upstream-downstream constellation ▪ Growing water scarcity, greater problem pressure
Process Factors **(Regime Formation)**	▪ Uncertainty of data ▪ Communication problems ▪ Fragmented decision making ▪ Negative issue-linkage ▪ Prevalence of hegemonic concepts	▪ (Perceived) shared demand ▪ Shared data and information ▪ Trade-offs with others economic, ecological, social and political arenas ▪ Positive issue-linkage ▪ De-securitization of water issues and new agenda framing
Country-Specific Factors **(Regime Formation and Regime Effectiveness)**	▪ One-sided development and policy approaches ▪ Rent-seeking behaviour of state actors and Clientelism ▪ Inner-state interests hampering cooperation ▪ Conflictive political culture	▪ Positive domestic policy changes ▪ Internal political processes like democratization, liberalization ▪ Foreign policy concerned about image, international law, reciprocity and limited sovereignty ▪ Existence of norm-entrepreneurs
Factors of International Context **(Regime Formation and Regime Effectiveness)**	▪ Political isolation and exogenous uncertainties ▪ Negative influence of international organisation international support ▪ History of foreign-conflict and mistrust	▪ Good present bilateral relations and regional integration process ▪ Membership and adherences to other international organisations and regimes ▪ Window of opportunity ▪ International agenda setting towards cooperation ▪ Role of mediators and facilitators ▪ Support by international organisations and third party involvement ▪ Epistemic communities and civil society engagement
Institutional Factors **(Regime Effectiveness)**	▪ Weak and overlapping administrative capacities	▪ Already established structures ▪ Achieved cooperation in other arenas ▪ Performance of domestic water sector

Source: Own Scheme, compiled from the utilized literature

4. Case Study: Euphrates-Tigris Basin

In this chapter, the outlined Analytical Matrix shall be applied in order to investigate factors obstructive and conducive towards cooperation within the Euphrates-Tigris Basin. The chapter is divided into two parts: First, some basic introductory information about the basin shall be provided as background. Then the precise assessment regarding the case study will proceed.

In order to answer the main research question of *which were / are the main factors of conflict and cooperation in the E-T Basin in the past and in recent years*, a brief timeline of the *History of Conflict and Cooperation* – including the *Incidents of Crises and Conflict* as well as the *Phases of Negotiation* and *Recent Developments* – will be given before scrutinizing in depth the *factors obstructive and conducive* towards cooperation according to the five structural factors – problem, process, country-specific factors, factors of international context and institutional factors. Afterwards, the second research question regarding the *Potential and Limits of the Applied Theories* will be answered.

4.1. Basic Information about the Basin

To gain preliminary knowledge in order to understand the subsequent analysis, some *Historical Information*, *Geographical and Hydrological Information* and *Information about the Land and Water Usage* within the E-T Basin will be displayed in the following sections.

4.1.1. Historical Information

The E-T Basin – called Mesopotamia (land between two rivers) – was the cradle for many ancient civilisations dating to 10,000 BC. The most well-known civilisations were the Sumerians, Acadians, Babylonians and Assyrians, who had established since 4,000 BC hydraulic civilisations based on well-maintained irrigation and flood control systems, and were home to 20 million inhabitants at their peak (Altinbilek 2004: 15).

The meaningful history of the region not only includes the "rise and fall of the ancient cultures of Mesopotamia, the Biblical dramas, the evolution of Islam and the growing Muslim dominance that have played out along and between the rivers, but also the rivers´ role as a military and cultural crossover between the civilisations from the East and West" (Trondalen 2008: 160).

Since cultivation of the land began, there have been water-related disputes ranging "from conflicts over access to adequate water supplies to intentional attacks on water supply systems during wars" (Altinbilek 2004: 15). The only real accounted water war by Aaron Wolf´s Dispute Data Base took place between the ancient city-states of Umm and Lagosch.

Today's Transboundary Water Course Basin of the Euphrates and the Tigris is based on the borders established after the fall of the Ottoman Empire in the early 1920s creating the states of Syria, Iraq and Turkey.

Saudi-Arabia, Kuwait and Iran also have their shares on the basin but will be neglected within this work due to their low hydrological influence on the basin and due to the core problematics of conflict and cooperation lying between the three riparians, Iraq, Syria and Turkey.

4.1.2. Geographical and Hydrological Information

Both the Euphrates and the Tigris originate only 30 km away from each other in the Kurdish region of today's Turkish state. Stemming from the uplands and mountains, the basin is largely fed from snow precipitation (Altinbilek 2004: 16).

The Euphrates River is almost 3,000 km long, making it the longest river in western Asia. Together with its tributaries, the Euphrates forms an enormous basin of 444,000 km^2 of which 33% lie in Turkey, 19% in Syria and 46% in Iraq (Kibaroglu et al. 2005: 55).

The Tigris River is the second-largest river in western Asia and originates near Lake Hazar at an elevation of 1,150m in the Kurdish mountains of eastern Turkey. It is fed by several tributaries, forming a drainage area of 387,600 km^2, of which 15% lie in Turkey, 0.3% in Syria, 75% in Iraq, and 9.5% in Iran (Kibaroglu et al. 2005: 55). The Tigris forms the Turkish-Syrian boundary for 32 km before crossing into Iraq. Several tributaries, mainly coming from Iran, contribute significantly to the water potential of the river within Iraq (Altinbilek 2004: 18).

North of the city of Basra both rivers fuse and form the Shatt-al-Arab watercourse – a delta almost a kilometre wide and 190 km long before discharging into the Arabian Gulf (Kibaroglu et al. 2005: 55-56;Altinbilek 2004: 18).

Due to this conjunction, the proximal origin, the almost parallel flow and some man-made connections like the Thartar Canal in Iraq, the rivers are mostly considered to be one single basin (Altinbilek 2004: 18).

Within the catchment area of the basin prevails a sub-tropical Mediterranean climate with wet winters and dry summers. The average winter precipitation ranges between

400 and 600 mm sometimes exceeding 1,000 mm. Due to the snowmelt and seasonal rainfall, the rivers' maximum flow is between March and May (Kibaroglu et al. 2005: 58). But both rivers are characterized by high variances in their seasonal and yearly flow with large floods and droughts (Altinbilek 2004: 18). The Mesopotamian Plain rarely receives above 200 mm annual rainfall (Kibaroglu et al. 2005: 58).

Although there are many divergent numbers of the basin's hydrological setting, the mean annual flow of the Euphrates is mostly stated as 32 BCM/year, 90% coming from Turkey and 10% originating in Syria. For the Tigris, the average total discharge is given as 52 BCM/year with 40% coming from Turkey, 51% contributed by Iraq and 9% by Iran. The data for the total flow of the Tigris-Euphrates and their tributaries vary between 68 BCM and 84.5 BCM (Kibaroglu et al. 2005: 57-58).

Table 5: Basin Area (% of total) in Riparian Countries

	Euphrates Total basin area 444,000 km²		**Tigris** Total basin area 387,600 km²	
	[Km²]	[%]	[Km²]	[%]
Turkey	146,520	33.0	57,600	14.9
Syria	84,360	19.0	1,000	0.3
Iraq	204,240	46.0	292,000	75.3
Iran	--	--	36,822	9.5

Source: Own compilation based on Kibaroglu et al. 2005: 56

Table 6: Contribution to Annual Discharge (% of Total) of Riparian Countries

	Euphrates Mean annual discharge 32 BCM		**Tigris** Mean annual discharge 52 BCM	
	[BCM]	[%]	[BCM]	[%]
Turkey	28.922	90.0	20.840	40
Syria	3.213	10.0	--	--
Iraq	0.0	-	26.571	51
Iran	--	--	4.689	9.0

BCM: Billion Cubic Meter

Source: Own compilation based on Kibaroglu et al. 2005: 56

4.1.3. Information about Land and Water Usage

The E-T Basin is of high value for all three riparians since all of them are using the waters for their mainly agrarian-based economies and for hydroproduction. Especially Syria and Iraq are highly dependent on the water resources of the basin, but also Turkey has recently been paying special attention to the use of the basin since launching the Southeastern Anatolian Project (Güneydogu Anadolu Projesi – GAP), which is aimed at the socio-economic development of the region.

Table 7: Overview on Population and Water Data in the Euphrates-Tigris Basin

	Total population 2005 [thousands]	Prospected population 2030 [thousands]	Total renewable water resources [km³]	Average annual precipitation [mm]	Dependency ratio on external water sources [%]
Turkey	71.169	90.375	213,6	643	1,1
Syria	19.121	30.560	16,7	252	72
Iraq	28.238	48.909	75	216	53

Source: Böhme 2010: 6

Up to now there has been a real absolute water shortage – apart from severe seasonal droughts – but the anticipated and declared demands of the riparian countries after the envisaged implementation of all irrigation and development projects by 2040 are likely to exceed at least the natural capacities of the Euphrates if not the Tigris (Altinbilek 2004: 32). Scheumann, for example, calculated in1998 that pegging the Euphrates' average annual discharge at 31,8 BCM and the amount of water needed by all projects at 43.3 BCM plus an evaporation of 7.4 BCM from the reservoirs, the deficit depleting the resources would be 18.9 BCM per year (Scheumann 1998: 117). Although Altinbilek came to a more moderate deficit – without taking evaporation into account – she also clearly determined a deficit at least for the Euphrates after the full implementation of all targeted development projects:

Table 8: Summary of Water Budgets at Full Development Scenario (km³/y)

Euphrates	Natural flow at Turkish-Syrian Border	Net with-drawal by Turkey	Entering Syria	Inflows in Syria	Net with-drawal by Syria	Entering Iraq	Net with-drawal by Iraq	Flow Shatt Arab
Altinbilek (1997)	31.43	-14.50	16.93	2.05	-5.5	13.48	-15.5	-

Tigris	Runoff in Turkey	Net withdrawal in Turkey and Syria	Entering Iraq	Inflows in Iraq by Tributaries	Net withdrawal in Iraq	Flow into Shattal-A
Altinbilek (1997)	18.87	-8.0	10.87	30.7	-31.9	

Source: Altinbilek 2004: 27

Such future scenarios are accompanied by prevailing present patterns of usage, which are still supply-oriented, leading the riparians to use “whatever amount of water suits them” (Trondalen 2008: 164). Among others, inefficient irrigation techniques, water subsidies and growing population are all factors which call for new and holistic water saving policies (Trondalen 2008: 161-64, after Böhme 2010: 6).

Next to the threat of over-exploitation by irrigation projects, climate change poses considerable challenges as well. Recent studies predict the annual discharge of the Euphrates River to decrease between 29% and 73% in the next 80 years and rainfall to drop up to 20-25% below the present mean values by the year 2050 (Trondalen 2009: 18-20, 26-29, after Böhme 2010: 6-7).

Already detectable but under-estimated threats are water quality problems caused by salinisation. According to Trondalen, a “slowly growing and uncontrolled rise of the salt concentration of the Euphrates River is taking place,” (Trondalen 2008: 163) which could result in “irreversible damage” if not tackled soon. Affecting Iraq first (which

already has a salt content of an average of 1,000 mg TDS/l (Total Dissolved Solids/litre) at the Syrian-Iraqi Border according to Trondalen (2008: 1630)) and then the southern part of Syria mainly through return-flow from irrigation, it has already resulted – in some reported cases – in making the water of the river Euphrates unusable for drinking purposes and the situation could worsen. Further pressure on the quality of the resources is added by the insufficient wastewater treatment prevailing in the region.

A closer look at each country and its water and land use patterns with respect to the E-T Basin will be given below.

Iraq

Modern planning and construction of irrigation and flood control systems started in 1950, including the Ramadi flood control reservoir, the Habbaniye dam, canal systems, the Lake Tharthar project and the Samarra dam. The Thartar project, in operation since 1988, was and still is especially important, since it transfers waters from the Tigris to the Euphrates via a 1,100-m³/s-capacity, man-made canal allowing flood control and additional water for irrigation (Altinbilek 2004: 20). With its surface area of 2,710 km² and its total capacity twice that of the Atatürk Dam, it is the keystone of Iraqi water infrastructure (Kibaroglu 2007: 154, after Böhme 2010: 10). Within the period between 1972 and 1990, Iraq´s development of water infrastructure gained speed. New and important hydraulic structures like the Qadissiyah and Fallujah dams were built (Altinbilek 2004: 20).

Estimations state that the country depends in total up to 53.4% on the waters of the Euphrates and Tigris (Böhme 2010: 10), while as much as 98% of surface water is coming from the two rivers (Trondalen 2008: 181). The Tigris has four major tributaries coming from Iran and Turkey increasing the amount of water during its way through

Iraq. The Euphrates already has its final amount of flow when entering Iraq from Syria (Böhme 2010: 10).

About 70% of the total water withdrawal is used for agriculture and 10% for municipal water supply (UNEP 2000, after Böhme 2010: 10). The numbers given for the total irrigated area diverge but are around 4 million ha with 1-1.3 million ha irrigated from the Euphrates and 2 million ha from the Tigris. But after the Iraq-Iran wars and the Gulf War, the irrigated area had decreased to some 3 million ha (Altinbilek 2004: 20).

"In many areas the agricultural productivity is inefficient. Severe groundwater withdrawal has led to waterlogging and salinisation […]. Water volumes withdrawn top the natural recharge rates" (UNEP 2000; Böhme 2010: 10). Nevertheless, if it tackles the threats for agriculture, Iraq could become one of the countries with the greatest opportunities in the region for agricultural growth (Aquastat 2008, after Böhme 2010: 10).

The urban water sector also faces an ongoing expansion and increased demand due to experienced shortages in cities like Baghdad and Mosul (Trondalen 2008: 181).

Such agricultural and urban activities and demands have threatened and already partly destroyed the marshland situated in the delta region of southern Iraq, which is formed beyond the conjunction of the two rivers. According to the United Nations Environment Programme (UNEP), it is "one of the world's greatest environmental disasters" (Al-Ahram Weekly 2003, after Böhme 2010: 11). As a consequence, UNEP Executive Director Klaus Töpfer called for a "holistic ecosystem approach based on the ultimate goal of sustaining riverine ecology, in which all Tigris-Euphrates riparian countries,

Iran, Iraq, Syria and Turkey, share the rivers' waters in a coordinated and equitable manner" (www.unep.org/cpi/briefs/Brief25March.doc).

Although the Iraqi water resources ministry is working on a "strategic 30-year long-term plan, the country and its water entities are still suffering from decades of mismanagement and three wars" (Trondalen 2008: 182). Despite slight progress now, the country with the largest population and farthest downstream location of the riparians is the most vulnerable in terms of quantity and quality (Trondalen 2008: 182).

Syria

The Syrian economy is also mainly based on agriculture – plus shares of oil, industry and tourism – which accounts for about 20% of its work force market and the Gross Domestic Product – GDP (CIA World Fact Book 2008, after Böhme 2010: 10). Therefore, about 90% of the country's water withdrawal is used for agriculture (Böhme 2010: 10). The total cropped area in Syria accounts for 4.8 million ha, from which 85% are rain-fed and about 600,000 ha are irrigated. To meet the growing demand due to population growth and policies of food self-sufficiency, the irrigated areas have been expanded and are still under expansion. In addition to surface water – for which the Euphrates alone accounts for 80-90% (Trondalen 2008: 180) – groundwater is also heavily used for irrigation purposes already leading to significant drops in groundwater levels (FAO 1994, after Altinbilek 2004: 20-24).

The major water infrastructure projects were the construction of the three dams – the Tabqa Dam (1975), the Al-Baath Dam (1988) and the Tishrine Dam (1999) – used for irrigation water and hydropower production (Altinbilek 2004: 20-24). Hydropower production accounts for about 22% of the produced Syrian electricity, which is already

nearly fully exploited – at least for the Euphrates (Hamzeh 2004: 14, after Böhme 2010: 10).

Additional to the use of the Euphrates there are development plans for the Khabur River and the Tigris as well for irrigation, hydropower and drinking water purposes (Altinbilek 2004: 20-24 and Trondalen 2008: 162).

Although the Euphrates Valley Project has aimed since the mid-1980s to increase the irrigated land along the Euphrates up to 645,000 ha regulating flooding and energy production (Kibaroglu 2007: 150, after Böhme 2010: 10), the implementation and compilation of the ambiguous project is stuck due to a lack of finance (Böhme 2010: 10). Furthermore, Trondalen speaks of factual land losses since 1960 due to various factors like soil characteristics, waterlogging, salinisation and land reforms (Trondalen 2008: 181).

Due to the increasing and competing needs and demands for irrigation projects and domestic consumption caused by population growth and accompanied by limited resources, there have already been water shortages in urban areas leading to inner-state distributional conflicts (Trondalen 2008: 181).

Turkey

With the beginning of the construction of the Keban Dam on the Euphrates in 1963 and its completion in 1975, Turkey set the modern stage for large-scale developments within the E-T Basin. In 1977 Turkey launched the GAP, thought of as a large-scale and multi-sectoral regional development project. Lying between the two rivers, the project area covers approximately 10% of Turkey's total population and surface area, precisely 75,358 km², of which 42.2% is cultivated. GAP aims – if fully implemented – at the

provision of water for irrigation purposes of 1.7 million ha of land and 27,470 GWh (Gigawatt hour) annually of hydroelectric energy (Altinbilek 2004: 24).

It is estimated that the full implementation of the GAP including the irrigation of "1.091 million ha to be irrigated from the Euphrates would consume about 10 BCM and, therefore, would reduce the flow by one third" (Scheumann 1998: 117).

In total GAP might double Turkey´s hydroelectric production and increase the irrigated land by 50% (Trondalen 2008: 180). It consists of 13 major irrigation and hydropower schemes including 22 dams and 19 hydroelectric power plants located within the basin accounting for US$32 billion of public sector financing (Altinbilek 2004: 24-25). Prior to the installation of modern water infrastructure like the Ataturk Dam in 1990, the irrigated area of the region only accounted for about 114,000 ha and was irrigated by groundwater (Kibaroglu et al. 2005: 58).

According to the official Turkish policy, GAP not only aims at the provision of irrigation water and energy, but at the whole socio-economic development of the region covering also industrial, transportation, urban and rural infrastructure, health care and educational purposes (Altinbilek 2004: 25) and is thereby seen as vital for the Turkish economy. But there has been and still is harsh regional and international criticism of the project, especially of the construction of the several large-scale dams. The points of critique not only include the possible implications for the downstream riparians Syria and Iraq, but also resettlement issues for the mainly Kurdish population, as well as environmental and cultural aspects (Kibaroglu et al. 2005: 10), which shaped and still shape disputed issues between the riparians and will be discussed in more detail later on.

In general, the two rivers account for 50% of Turkey's total surface water supply (Trondalen 2008: 180), therefore being a core piece of Turkey's considerations. Countrywide, 70% of the water is used for irrigation, 10% for municipal water supply and 10% for industrial usage. Agriculture is still vital for the Turkish economy, since about 42.6% of the working population works in it and since it has a share of 8.8% of the GDP (Böhme 2010: 8).

Like Iraq and Syria, Turkey still aims at achieving food security and self-sufficiency, but also at gaining independence from imported energy sources, at satisfying increasing water demand from industry and urban and rural populations, and at improving regional economic and social imbalances in the region (Kibaroglu et al. 2005: 5).

4.2. History of Conflict and Cooperation

In the following, the main research question will be scrutinized and answered. Therefore, the *History of Conflict and Cooperation* – including *Recent Developments* – will be laid down before drawing on the Analytical Matrix by processing the factors obstructive and conducive to transboundary cooperation within the basin. The history of the E-T Basin is characterized by both *Incidents of Crises and Conflict* and *Phases of Negotiation and Cooperation* (Scheumann 1998: 113). Therefore, it remains important to display both in order to get the whole picture and to understand how disputed water issues have been and still are linked with other outstanding issues.

4.2.1. Incidents of Crises and Conflict

Until the 1960s, the hydro-political relations among the three riparians of the basin were more or less harmonious. Already occurring pollution and inefficient use of water were on a level which could not affect the resources strongly and therefore were not perceived as a threat (Böhme 2010: 12). The rise of hydro-political conflict began with

unilateral developments of large-scale water infrastructures for river flow regulation and irrigation purposes, which had recognizable transboundary effects (Altinbilek 2004: 15-16) leading to a number of crises during the 1970s, 1980s and 1990s in the region (Kibaroglu et al. 2005:59).

Although the disputes between the riparians never led to real fighting, there was an incident which brought Syria and Iraq to the brink of war (Böhme 2010: 12-13). Almost at the same time, in 1974, Turkey and Syria finished the works at the Keban and Taqba dam. “[T]he impounding of both reservoirs in the following two years escalated into a crisis in 1975 with Iraq accusing Syria of reducing the river’s flow to intolerably low levels, while Syria blamed Turkey. The Iraqi government was not satisfied with the Syrian response” (Kibaroglu et al. 2005: 59) and both parties moved troops to the borders. A peaceful settlement of the dispute could be found only with the mediation of Saudi Arabia and the Soviet Union convincing Syria to release an extra amount of water to Iraq (Kibaroglu et al. 2005: 59).

In the early 1990s when the Ataturk dam in Turkey was filled, another major crisis occurred.

In January – the month with no or the lowest demand for irrigation water – Turkey temporarily reduced the flow of the Euphrates River in order to fill the Ataturk reservoir. Having notified Syria and Iraq in November 1989, Turkey then released twice the usual amount of water for two months prior to filling the dam. Nevertheless, the Syrian and Iraqi governments made official complaints and called for an agreement to share the waters of the Euphrates in a binding and obligatory manner (Kibaroglu et al. 2005: 59).

Similar situations took place in 1995 and 1996 when Syria and Iraq protested against the construction of the Turkish Birecik dam on the river Euphrates expressing their fear that the dam would affect the water's quantity and quality (Kibaroglu 2007: 157, after Böhme 2010: 14). Requesting Arab League countries to halt financial aid to Turkish projects and to boycott European companies which had financed the dam, the issue became an international affair (Scheumann 2003: 750f, after Kibaroglu et al. 2005: 59).

These kinds of linkages of Iraqi and Syrian concerns with international affairs gained prominence in further complaints related to the Turkish GAP. The planned Ilisu Dam on the Tigris River became an outstanding example: Since there were and still are several international Non Governmental Organisations protesting against the expected environmental and social consequences of the dam, Iraq and Syria used strategic coalitions to raise internal awareness for their concerns. The dam will create a reservoir with a volume of 10.4 BCM and a surface area of 313 km^2 (Kibaroglu et al. 2005: 62) and is of high priority for Turkey as it is supposed to be their largest remaining power installation (Altinbilek 2000, after Kibaroglu et al. 2005: 63).

Since Turkey still depends on international funding for the large-scale project, an international consortium of Export Credit Agencies (ECAs) from Switzerland, United Kingdom, Germany, Italy, Austria, Japan, Portugal, Sweden and the United States was meant to finance it. The international concerns and protests against the project itself and the policies of the ECAs led to a call by the ECAs in 1996 regarding the need for conditions – like an appropriate resettlement programme, assurance of adequate downstream flows and plans to preserve as much of the archaeological heritage of Hasankeyf – to be fulfilled by Turkey.

Several years later, these minimal standards remain to be fulfilled. Even the WB heavily criticised the project and a worldwide coalition of organisations (such as Friends of the Earth, the International Rivers Network, the Center for International Environmental Law, the Washington Kurdish Institute, ECA-Watch, etc.) led to the withdrawal of the ECAs from the project in summer 2009 (www.stopilisu.com).

Iraq and Syria supported this international protest, and new forms of coalitions with civil society organisations were formed in order to express their fears about the Ilisu Dam reducing the flow of the Tigris to one-third. Furthermore, it started an inner-Turkish movement against the project claiming environmental and human rights injuries especially at the expense of the Kurdish population living in the region (www.stopilisu.com). Those processes of civil protest, of creating new coalitions and agenda setting will be discussed later in detail, as they can explain to some extent how the dispute between the riparians – and its methods – has changed over the years and how this offers new prospects of dealing with it.

The protests and concerns against the Ilisu Dam are strongly linked to the Iraqi Marshland problem due to its anticipated negative impacts. The Euphrates-Tigris river system used to divide into many channels at Basra, forming an extensive marshland area. A UN Study concluded as follows: “The Mesopotamian marshlands, which until recently extended over an original area of 15,000 to 20,000 km², have been devastated by the combined impact of massive drainage works implemented in southern Iraq in the late 1980s / early 1990s and upstream damming” (UNEP 2001: ix, after Kibaroglu et al. 2005: 64-65).

Since the 2003 invasion of Iraq and the fall of the Saddam regime, drainage policy was changed and about 30% of the lost area of the marshes could be revitalized in their

ecological function. International funds and tools have been provided (Kibaroglu et al. 2005: 64). Despite these improvements, international actors like the European Union (EU) are continuously calling for Turkey to "be sensitive to the water requirements of these countries, with particular reference to the lower Mesopotamian marshes in Iraq and Iran, where water flows have been significantly reduced by the construction of the Ataturk Dam" (European Parliament 2004: No. 42, after Kibaroglu et al. 2005: 64-65). Following their findings UNEP immediately called for a "long-term recovery plan requiring an holistic river basin approach based on the ultimate goal of sustaining riverine ecology and in which all Tigris–Euphrates riparian countries share the rivers' water in a co-ordinated and equitable manner" (UNEP 2001, after Altinbilek 2004: 30).

As an outcome of this regional ecological problem and the international protest against the planned Ilisu-Dam, it was often claimed "[t]he Ilisu Dam should be taken by Turkey as an opportunity to reconsider the fact that environmental and social issues are more adequately dealt with at the planning and implementation phases of dam planning. There is a need for improved participation as early as the planning stage, and possibly in designing resettlement programmes" (Kibaroglu et al. 2005: 65).

Despite the three major crises over the construction and the filling of the Keban and Taqba Dams in 1975, the Ataürk Dam in 1990 and the Birecik Dam in 1996, as well as the ongoing international and regional concern over the GAP, and the Ilisu Dam in particular, there have been several lengthy phases of negotiations, and cooperation and certain agreements could be reached.

4.2.2. Phases of Negotiation and Cooperation

Although there have been negotiations between Turkey and Iraq on the development of the Euphrates since the 1940s, real technical meetings between the two countries have

taken place only since the early 1960s. In 1965, the first tripartite negotiation including Syria took place (Kibaroglu et al. 2005: 59-61). From 1965 until 1974, several meetings of the established Joint Technical Committee (JTC) were held on an ad hoc basis.

During those meetings, the riparians mainly discussed technical issues related to the particular dams at the time. For instance, the first Iraqi-Turkish meeting during the impounding of the Turkish Keban Dam assured that 350 m^3/s at minimum would be released downstream (Kibaroglu et al. 2005: 60). Furthermore, Turkey made the proposal during this meeting that the JTC should gather mutually agreed upon data and define the respective irrigation needs as a starting point for an agreement to be reached (Kibaroglu et al. 2005: 60).

During the first tripartite meeting, the riparians exchanged technical data on the Haditha (Iraqi), Tabqa (Syrian) and Keban (Turkish) dams (Kibaroglu et al. 2005: 60). In this context, Syria made the proposal to conduct a JTC study of the water requirements of the irrigable lands as well as to look for possibilities of covering shortages by diverting water from the Tigris to the Euphrates. Iraq opposed this and insisted on negotiating only on the waters of the Euphrates (Kibaroglu et al. 2005: 60).

Although the riparians' delegations met frequently during the 1970s, no precise agreement was reached and the riparians continued to implement their respective water development projects, in particular the unilateral impounding of their dams (Kibaroglu et al. 2005: 60).

When in the early 1980s Turkey declared its new and enormous development plan, the GAP, the riparians got the urge to cooperate or at least to exchange and negotiate again. Within the frame of a Joint Economic Commission (JEC), Iraq called this time for a

permanent JTC. Syria joined the JTC in 1983 (Kibaroglu et al. 2005: 60). Until the JTC meetings were suspended in 1993, the riparians held 16 meetings. The main aim of the JTC was to determine the methods and procedures in order to define a reasonable and appropriate amount of water for each country's needs from both rivers. Therefore, the delegations exchanged hydrological and meteorological data and information about progress made related to each riparian's dams and irrigation schemes (Kibaroglu et al. 2005: 60).

"However, after sixteen meetings, the JTC could not fulfil its mandate, and the talks became deadlocked" because "[…] Iraq and Syria consider the Euphrates an *international* river and insist on an immediate sharing agreement" on the basis of each country's water needs. "On the other hand, Turkey regards the Euphrates and Tigris as forming a *single transboundary river basin* where the waters should be *allocated* according to the identified needs" and is unwilling to negotiate the rivers separately (Kibaroglu et al. 2005: 60-61).

These contested issues have been almost the same since the early negotiations of the 1960s, showing that the riparians have hardly changed their positions during the decades (Kibaroglu et al. 2005: 59). Also, it became obvious during the negotiations that the declared and anticipated demand of all the development projects to be implemented by the riparians could not be met, which, accompanied by inadequate and contested data, additionally hampered the dialog (Böhme 2010: 13).

During the failed negotiations one main issue emerged between the riparians: Should an urgent sharing arrangement be reached – as proposed by Syria and Iraq – according to mathematical formulas or should the rivers´ water be allocated according to the stated and adjusted needs of the riparians – as proposed by Turkey and its *Three Stage Plan*

for Optimum, Equitable and Reasonable Utilization of the Transboundary Watercourses of the Tigris-Euphrates Basin? Although this plan was not accepted and the meetings of the JTC failed to reach a basin-wide accord, two important and lasting bilateral agreements between the riparians were concluded within the context of these meetings.

The first one is the July 1987 bilateral agreement between Turkey and Syria. According to this protocol, which was signed within the broader context of a JEC Meeting on *Matters Pertaining to Economic Cooperation*, Turkey guaranteed to release a yearly average flow of the Euphrates of more than 500 m^3/s (about 16 BCM/year) at the Turkish-Syrian border. The second bilateral agreement was established in 1990 between Syria and Iraq and stated that Iraq would receive 58% of the Euphrates' waters and Syria consequently 42% out of the amount effectively measured at the Turkish-Syrian border (Altinbilek 2004: 16).

Although neither supposedly interim-agreement covers acknowledgments over precise procedures or further cooperation on future developments, and both are more or less simple sharing agreements, they have endured times of crisis and show the possibilities of basic cooperation (Kibaroglu et al. 2005: 62).

Since there have been some fruitful efforts to restart the JTC meetings from 1996 onwards (Altinbilek 2004: 16), recent developments with regards to transboundary cooperation between the riparians will be outlined in the following sub-chapter.

Table 9: Bilateral Agreements on the Euphrates

Date	Countries	Agreement	
17 July 1987	Turkey and Syria	The Protocol on Matters Pertaining to Economic Cooperation United Nations Treaty Series 87/12171, 17/7/1987	Article 6 of the Protocol: *During the filling up period of the Ataturk Dam reservoir and until the final allocation of the waters of the Euphrates among the three riparian countries, the Turkish side undertakes to release a yearly average of more than 500 m³/s at the Turkish-Syrian border and in cases where monthly flow falls below the level of 500 m³/s, the Turkish side agrees to make up the difference during the following month.*
1990	Syria and Iraq	Bilateral agreement	The Joint Minutes (1): *The Iraq water share on the border region between Iraq and Syria is 58% as a fixed annual total percentage (water year) of the water Euphrates river allowed to pass in Syria through the border with Turkey, and the Syrian share of water is the remainder quantity 42% of the water of Euphrates river allowed to pass through the border between Turkey and Syria.* (after Kibaroglu et al. 2005: 62)
August 2001	Syria and Turkey	Bilateral agreement Joint Communiqué	Agreement between GOLD (SYR) and GAP (TUR) on cooperation

GAP: Güneydogu Anadolu Projesi
GOLD: General Organisation for Land Development
Source: Own compilation based on Böhme 2010: 14 and Kibaroglu et al. 2005: 62

4.2.3. Recent Developments

Especially the relations between Turkey and Syria have improved considerably since the signing of the Adana Security Agreement in 1998 (Kibaroglu et al. 2005: 65). As a turning point this accord laid the ground for new and promising initiatives (Kibaroglu et al. 2005: 65) and fostered concrete cooperation initiatives between the countries in water and other sectors (Böhme 2010: 14) since it solved one of the main underlying disputes between them: Syria committed itself to forbid “any activity emanating from its territory aimed at jeopardizing the security and stability of Turkey” (Syria and Turkey 1998, after Böhme 2010: 14). This meant Syria withdrew from use of the *Kurdish card* by committing to stop supporting the PKK (Kurdish Workers’ Party) activities from its territory (Böhme 2010: 14).

Trondalen reports from another very important cooperative event in 1998, saying that by this year “[…] all three states were willing to provide not-yet published or authorized water-related information to be used in a series of technical studies, based on a commonly accepted scope for the work“ (Trondalen 2008: 167).

Based on the 1998 event Syria and Turkey signed a Joint Communiqué for cooperation between the two large water development projects of the countries, the GAP and the General Organisation for Land Development (GOLD) on 23 August 2001 (Kibaroglu et al. 2005: 65). According to this agreement, the overall goal should be to “provide sustainable utilisation of the region’s land and water resources, and to deal with water management within the larger context of overall socio-economic development and the integration of under developed regions within Turkey and Syria” (Kibaroglu et al. 2005: 65). This should be realized by offering training programs, joint projects and exchange programmes (Böhme 2010: 14). As a result, a joint coordination mechanism between the two respective ministries and intergovernmental networks should be created allowing new opportunities for realising win-win solutions (Kibaroglu et al. 2005: 65). According to several observers, this initiative is part of Turkey’s efforts to revive the discourse about its *Three Stages Plan* of 1984, which still serves as a reference point for an aspired Turkish transboundary water policy (Trondalen 2008: 170;Böhme 2010: 14-15).

The relations between Iraq and Turkey have also improved considerably in the aftermath of the 2003 Iraq war and the fall of the Saddam regime. Particularly, Turkey shifted “[...] its discourse over water from focusing on sovereignty to the advocacy of Benefit-Sharing in the post Iraq war era” (Böhme 2010: 15). This discursive change was not only made possible by overall geo-political changes, but it is certainly due in part to

the changed attitudes and perceptions towards the Kurdish issue within all three riparian territories, which will be displayed in detail later on.

A further remarkable development towards cooperation occurred in May 2005 when a group of scholars and professionals of the region founded the *ETIC*. Thought of as a regional epistemic community, the ETIC aims at providing opportunities for dialogue, developing project concepts, implementing pilot projects, creating sub-networks by bringing together different stakeholder groups (farmers, NGOs, business and professional societies, community-based organisations), increasing public awareness and facilitating education and capacity building (Sagsen 2006: 100). Since the ETIC is a non-state actor, it pursues its aims by the so-called track II diplomacy, which cannot replace official state efforts, but might lead to increased trust and friendship and institutionalized forms of cooperative communication.

In addition to these considerable societal initiatives and efforts, the official governmental endeavours towards water-related cooperation have gained strength and speed since 2007/2008, too. This is evident when considering several trilateral meetings at the ministerial level or between representatives of different ministries (Böhme 2010: 15).

However, despite several iterations of Syrian and Iraqi claims on the resumption of trilateral talks and flow increases in 2008, Turkey announced a new investment package for the GAP, showing the will to continue with its implementation, especially regarding the Ilisu Dam (Daoudy 2009: 381-82, after Böhme 2010: 15).

Due to a severe drought affecting Syria and Iraq in 2009, numerous visits and significant communication between the countries took place during the spring and

summer months because both countries accused Turkey of holding back water. Syria stated the devastating effects on and the loss of livelihoods of about 800,000 farmers. Iraq also reported on the enormous suffering of the national agriculture due to insufficient access to irrigation, saline water intrusion in the south and the decline of hydro-energy generation causing power shortages. According to the Iraqi government, the flow of the Euphrates was only about 200 m^3/sec at this time. This accounts for less than half of the minimum amount stated as a requirement to meet the country's basic needs (UPI 2009, The National 2009, after Böhme 2010: 16).

Iraqi protests were accompanied by international protest against the Ilisu Dam in Turkey. Iraq used this opportunity of actual threats to highlight a worsening of the situation in the future. In May 2009, the Iraqi parliament passed a law pushing the government to include the issue of water shortage in its routine meetings with the Turkish government (Böhme 2010: 16).

In response to the Iraqi claims, Turkey increased the Euphrates flow to 570 m^3/sec in June 2009 but not to the level of 715 m^3/sec officially aimed at by Iraq. Furthermore, Iraq reported that the released amount dropped back to only 250 m^3/sec (Böhme 2010: 16).

Some progress in tackling the disputed issues was made during a tripartite water ministers' meeting in September 2009 (Akkad 2009, The National 2009, AFP 2009a, Todayzaman 2009, after Böhme 2010: 16). Another meeting on September 19, 2009, in Turkey, where the water ministers of the three countries, Foreign Ministers and Arab League representatives were present, brought a water agreement mitigating the urgent problems (AFP 2009, Karim/Jordan Times 2009, UPI 2009, Turkish Weekly 2009, after Böhme 2010: 16).

Even if the recent developments indicate an improvement in the cooperative attitude of the riparians and even if several high-level and non-state initiatives are ongoing, "[…] the core issues at the root of the conflict remain unresolved: the water volume question, water quality issues involving drainage waters from upstream, and questions related to the GAP, foremost the construction of the Ilisu Dam and its consequences on the Tigris" (Böhme 2010: 17).

4.3. Main Factors of Conflict and Cooperation in the Past and in Recent Years

4.3.1. Factors Obstructive to Cooperation

Based on the outlined *History of Conflict and Cooperation* the precise analytical factors obstructive towards cooperation shall be displayed in the following. According to the developed Analytical Matrix, those factors obstructive towards cooperation will be subdivided into *problem factors, process factors, country-specific factors, factors of international context* and *institutional factors*. Within this analytical categorization, the theoretically gained precise indicators will be outlined according their explanatory force for the E-T Basin.

4.3.1.1. Problem Factors

In the following, the respective problem factors obstructive to cooperation will be outlined. Such factors refer to the underlying *mode of problem*, namely the conflict type and the conflict structure as theoretically carved out.

Conflict Type: Conflict of Relative Distribution and Use

According to the outlined Analytical Framework Matrix a precise analysis of the conflict will be drawn in the following, starting with the categorisation of the conflict based on Haftendorn. The underlying type of conflict can be described as a *conflict of*

relative distribution since until now the overall demands do not exceed the average annual discharges of the rivers, although after the full implementation of all initiated projects this might be the case. Furthermore, it is a classical *conflict of use* between different and competing purposes like irrigation, hydropower generation and the supply of drinking water. Such a competition of the different uses of the waters is subject to both interstate and inner-state competition and faces strong natural seasonal fluctuations.

Conflict Structure: Disputed Water Rights

Disputed water rights are the main factor that has shaped and still shapes the underlying conflict structure, and which is obstructive towards cooperation since “[a]ll three nations have claimed control and the right to use the water resources from the two rivers as an integral part of their territorial sovereignty” (Trondalen 2008: 165).

The respective riparians´ positions towards the claims over the use of the waters are as follows:

Iraq strongly refers to its acquired and historical rights over the use of the waters since it was the first riparian country which used the rivers for extensive irrigation in ancient times and the first to build modern water infrastructure in the beginning of the 20th century (Altinbilek 2004: 16). Furthermore, Iraq considers the Euphrates and Tigris Rivers as international watercourses in the sense of shared natural resources (Trondalen 2008: 173). As the most downstream country, Iraq strongly depends on cooperation with the upstream riparians and therefore has an interest in a trilateral agreement. Transboundary water issues are ranked highly on the political agenda. Recently Iraq tried to underpin its positions by using international support and referring to international water law. Iraq has ratified the UN Watercourses Convention (Böhme

2010: 11). Iraq therefore opts for a sharing formula according to the stated needs of the riparians (Trondalen 2008: 173).

The reasoning of Syria according to its claimed water rights is quite similar to the Iraqi position. Syria also claims to have historic and acquired rights on the water usage, although the Syrian position is more difficult as it is a downstream and upstream country at the same time, with accordingly layered interests. Furthermore, there are rivers like the Orontes, where Syria is upstream in relation to Turkey, making a coherent position even more difficult (Trondalen 2008: 171-172; Böhme 2010: 10). Syria as well refers to the international codification efforts of transboundary rivers and regards the Euphrates and Tigris rivers as international watercourses, which are shared resources and should be divided among riparian states according to a quota based on their declared demands (Altinbilek 2004: 16). Syria has repeatedly stated its interest in a trilateral agreement, since such an agreement would give it the opportunity to make long-term water resource management plans (Trondalen 2008: 171-172; Böhme 2010: 10). Furthermore, Syria stated that it would not sign a final bilateral agreement with Turkey without Iraq's participation (Trondalen 2008: 171). Syria has also ratified the UN Watercourses Convention and – like Iraq but unlike Turkey – is a member of the United Nations Economic and Social Commission for Western Asia (UNESCWA) (Böhme 2010: 10).

On the contrary, Turkey's principal argument is that no country has a fixed claim to the waters, but "[…] that *equitable and reasonable utilization* is the most acceptable principle in the allocation of a transboundary river. In order to reach equitable usage of the waters of the two rivers, various socio-economic, legal, hydrological and geopolitical factors in the riparian states should be taken into consideration" (Trondalen

2008: 169). Turkey refers to the Euphrates and the Tigris rivers as transboundary rivers, that is rivers crossing state borders – not international rivers running along borders – and draws a somehow different interpretation of allocation of rights from this definition (Trondalen 2008: 169). In the view of Turkey's current and future water needs not necessarily having to stem from one river; compensations between rivers should be considered. Turkey believes also that damming the rivers provides benefits to Syria and Iraq, like flood protection, and that Turkey has the most appropriate location as less water is lost in summer for irrigation and hydropower generation, which should be acknowledged by Syria and Iraq (Trondalen 2008: 170).

Summarizing this point, it can be said that the "[…] stringent positions that changed little during the course of negotiations in three decades until the suspension of the negotiations in the early 1990s" (Kibaroglu 2006: 137) are a main cause of the deadlocked conflict structure.

One of these stringent positions was briefly mentioned with Turkey on one side and Iraq and Syria on the other having different views of whether the Euphrates and the Tigris rivers have to be considered as one single basin or as two separate basins. Turkey promotes the twin basin model, considering a basin-wide approach essential and calling for joint water quantities to be shared. At the same time, Syrian and Iraqi fears of being disadvantaged regarding the quantities from the Euphrates are reasonable, particularly as current data cannot precisely identify whether there is a surplus to be found in the Tigris or not. Syria furthermore highlights that the conjunction of the rivers is downstream of Syria. The Iraqi argument is that the Iranian contribution to the Tigris cannot be part of Turkish-Syrian-Iraqi negotiations (Trondalen 2008: 170-173; Böhme 2010: 4).

Although the twin basin model would allow water transfers between the rivers in each country, joint studies of the two rivers would also be needed, but until now "[…] only little is known on how to analyse ET following the twin-basin […] and no basin study has been conducted" (Böhme 2010: 5). Trondalen and others state that for sustainable water-management, the main question is not whether there would be two associated agreements for the rivers or a single one. The issue is rather to reach an agreement and to manage the rivers for the optimal benefit of all three countries (Trondalen 2008: 196; Böhme 2010: 5). But since the riparians are not able to agree on the respective issue, this disagreement remains a strong factor obstructing conclusion of a tripartite agreement.

Non-Acceptance of International Water Law

The process factors – disputed water rights and the twin versus single basin dispute – are linked to another aspect, namely the non-acceptance of international water law especially by the Turkish side. As already stated Turkey did not sign the *United Nations Convention on the Law of the Non-navigational Uses of International Watercourses* (1997 – UN Water Convention) – in contrast to Syria and Iraq – and even voted against it. Furthermore, Turkey can be described as being very reluctant towards various kinds of transboundary water law issues (Kibaroglu et al. 2005: 2). For example, Turkey refused to discuss transboundary water issues within the context of the 2002 Organisation for Security and Cooperation in Europe (OSCE) Economic Forum, which aimed to promote transboundary water cooperation as an adequate measure to support good political relations between riparians (Kibaroglu et al. 2005: 2, 19).

Conflict Structure: Dominance of a Regional Hegemon based on Coercion

Various experts and literature on the basin assume Turkey's position as the *Hydro-Hegemon* within the basin´s structural setting, playing out a dominative form of the respective hegemony "[…] influencing an inequitable outcome – at the expense of lingering, low-intensity conflicts" (Zeitoun and Warner 2006: 435).

For sure, the riparians – being formally equal nation states – do have different degrees of power. Here Turkey plays a dominant role as the upstream country, but it also has a political and military position of strength in the region exercised as a structural power (Böhme 2010: 9). Nevertheless there are – as shown in the theoretical part of the work – different forms of power, which endowed and still endow Iraq and Syria with somewhat strong bargaining power (Zeitoun & Allan 2008: 7; Daoudy 2009).

The use of such bargaining power was repeatedly practiced by Syria and Iraq in applying the negotiation tactic of issue-linkage. Syria coupled the transboundary river issue with the security-related issue of Kurdish independence, and both Syria and Iraq used the dispute over the Ilisu dam on the Tigris River to form an unlikely discursive alliance with the International Rivers Network and international celebrities in order to create new discursive frames (Zeitoun et al. 2010).

Those strategies – be it issue-linkage, changing the negotiation game, building coalitions or impacting interests (Daoudy 2009: 377) – have been partly successful since the mid-1990s. Before that, the Turkish government especially under President Özal (1989-1993) was able to perform more stringent forms of hydro-hegemony, doing "with the water what it wanted – such as stop the flow of the Euphrates for over a month to fill the Atatürk Dam reservoir – and effective dismissal of protests from the Syrian and Iraqi governments" (Zeitoun et al. 2010).

Even in such times, Turkey was not solely able to apply coercion to achieve its goals but had to use other bargaining tactics. The offer to release 500m³/s to Syria from the Euphrates can be seen in this light: it was made in order to stimulate further cooperation with Syria within the broader political and security context. The same logic accounts for the supply of electricity and agriculture from Turkey to Iraq, which has encouraged further cooperation.

Nevertheless, it can be said that its alleged hegemonic upstream position enabled Turkey to practice non-compliance between 1989 and 1992, during the droughts between 1999 and 2001 and during the filling of the Atatürk and Birecik dams, where flows verifiably lay under the agreed minimum of 500m³/s (Daoudy 2009: 376).

Another factor shaped by the hegemonic conflict structure is the importance of time as a source of power. Whereas Syria and Iraq, as vulnerable downstream riparians, had and have a clear interest in concluding an agreement promptly, time was on Turkey's side "[…] as the upstream riparian was in no hurry to conclude a basin-wide agreement before the completion of GAP – making it less impatient to allocate the common waters in mutual agreements despite incurred costs in terms of internal security" (Daoudy 2009: 383).

Furthermore, based on its dominant position, Turkey opposed third party involvement on the water issues between the riparians and favoured bilateral or trilateral agreements negotiated only among the riparians (Böhme 2010: 9). But this strategy was met with a counter-strategy by Syria and Iraq involving different third parties, state or non-state actors, for mediation or international blaming.

Conflict Structure: Embedding in Larger Regional and International Conflicts

Clearly, the dispute over the waters of the Euphrates and the Tigris was, and still is to a lesser extent, embedded in larger regional conflicts.

One main conflictive regional issue shaping the water dispute as well is the *Kurdish issue*. In the past it was a strong factor obstructive towards transboundary water cooperation, later on it became more of a unifying factor among the riparians and nowadays – due to Turkish inner-state efforts to handle the conflict with the Kurdish minority – it plays only a subordinate role. Nevertheless, the Kurdish rule of northern Iraq and its related regional questions are still an issue of concern between the riparians.

But in the past, and especially since 1983 – the year in which the GAP was announced – "Syria […] ha[s] successfully used the PKK as a trump card in the water game" (Scheumann 1998: 123). Syria, although not known as *Kurdish friendly* within its own territory, supported the Kurdish movement – struggling for acceptance and minority rights within Turkey – out of strategic reasons in order to increase its bargaining power in the Turkish-dominated water game. Vice versa Turkey used its water trump and reduced the water flow in 1993 – due to *technical matters* – until Syria officially declared the PKK a terrorist organisation and stopped its support (Van Edig 2000: 145).

Based on the above history it can be said that on the one hand the escalation of the water dispute in the mid-1980s corresponded to the escalation of the Kurdish problem and its instrumentalisation of the riparians. On the other hand, the solution of the Kurdish problem is intrinsically linked to the resolution of the water disputes among the riparians (Çarkoglu & Eder 2001: 63).

In addition, the water dispute among the riparians was also embedded within the rivalry over regional hegemony of the two different Ba´ath regimes in Syria and Iraq. For example, "[w]hen Iraq threatened to bomb the Tabqa Dam, the conflict escalated and brought the rival Ba´ath regimes of Syria and Iraq to the brink of war, adding to their competition for hegemony in the Arab world" (Scheumann 1998: 120-121). This shows how hegemonic claims over dominance within the Arab world and different ideologies between the concerned Iraqi and Syrian governments converged with water issues. Due to Turkey's then growing position of regional hegemony, the two Arab states approached each other again over the water issues (Van Edig 2000: 145).

Furthermore, the water disputes had almost *systemic character* since Syria was pro-Soviet and backed by the Union of Soviet Socialist Republics (USSR), whereas Turkey was backed by the United States and embedded in western military structures like the North Atlantic Treaty Organisation (NATO). In addition to this *East and West Issue,* the water dispute was overshadowed by the long-lasting rivalry among Arabs and Turks. Another important issue was the embedding of the conflict into the overall Middle East Conflict through Turkish rapprochement towards and cooperation with Israel. This was angrily perceived, especially by Syria. Under the US-presidency of George W. Bush, Syria was stigmatised as belonging to the *axis of evil*, which further complicated a constructive dialog among the riparians (Bulduk 2008: 269).

Until the recent settlement of the disputes over the Hatay province between Syria and Turkey, the water disputes were also embedded within that issue, which "[…] had originally emerged in the 1930s when Hatay became, according to a result of the plebiscite conducted at the end of the French mandate, part of Turkey in a move that has been disputed by Syria" (Scheumann 2003: 749).

Conflict Structure: Newly Internationalised Basin

A problem factor accounting for the underlying conflict structure and related to the embedding of the water dispute into a regional context is the fact that the E-T Basin can be considered as a somehow artificial internationalised basin since it is *not a naturally* grown entity, but rather one that was artificially created after the breakup of empires like the Ottoman one and the subsequent French and British rule (Wolf et al. 2003: 11).

The borders of today's Syria and Iraq have been drawn due to French and British colonial interests after the downfall of the Ottoman Empire and with the purpose of dividing ethnic and religious groups into different nation states. Minorities were installed to govern majorities, which caused and still causes several regional conflicts and disputes, also hampering cooperation over water (Barandat 1997: 171).

Conflict Structure: Unilateral Development Projects

Unilateral development projects related to water resources are clearly another problem factor shaping the conflict structure since "[a]ll three countries have univocally given national priority to agricultural development demanding a huge amount of water" (Trondalen 2008: 165). Not only because such projects aimed at increasing agricultural activities are consuming by far the biggest share of the Euphrates' waters, but also due to their non-cooperative and unilateral attitude, they have been one of the main threats to the riparians´ relations (Scheumann 1998: 114).

Most of all the Turkish GAP is an issue of concern for the downstream riparians since its implementation has already caused water shortages in Syria and Iraq, and it is supposed to further decrease the annual average flow and reduce the water quality of the

Euphrates and Tigris (Böhme 2010: 8). Therefore, GAP was and still is the main reason for a negative atmosphere from the Syrian and Iraqi perspectives (Sagsen 2006: 98).

Equally, the unilaterally conducted activities of the downstream riparians add further pressure on the resources and affect the atmosphere among the riparians. The *GOLD* of the Irrigation Ministry of Syria and its focus on the huge agricultural and hydro-energy activities within the *Euphrates Valley Project* are examples in this respect.

Conflict Structure: Water Projects as Prestige Projects

The described unilateral attitude with regards to water development projects does not only stem from the perceived agro-economical demand of the nation states, but also from the fact that they are still considered prestige objects in a cultural and political manner.

“Water has a tremendous cultural and spiritual value in the region, not only for the society, but also for the political leaders” (Trondalen 2008: 165). And the usage of water projects as prestige objects still plays a crucial role for political remedy, political rent-seeking mechanisms, political assets and societal power distributions.

The GAP, for example, is set high on the political agenda, not only because Turkish politicians see it as an important project for the national integrity, but also as a legacy of the Turkish leader and founder of the republic, Ataturk (Böhme 2010: 8). “GAP has become a symbol of national pride, which seems to receive not only unanimous support from political parties across all ideological orientations, but also maintained its privileged position within governments´ budgets” (Çarkoglu & Eder 2001: 42).

Within centralist ba'athist Syria, water and its related projects are similarly not only used for economic and developmental issues, but for regulative ones in an attempt to

remain in control over societal processes and movements. Water projects as prestige objects are still used to demonstrate state power (Barandat 1997: 168). Almost the same political function of societal control was attributed to water in Iraq, especially under the regime of Saddam Hussein.

4.3.1.2. Process Factors

In the following, the respective process factors obstructive to cooperation will be outlined. Such factors refer to the occurring processes shaping the water dispute as found in the theory review and built upon in the Analytical Matrix.

Uncertainty of Data

Although "[w]ater data issues were repeatedly addressed in intergovernmental riparian meetings in the past decades" (Böhme 2010: 5), there is still a lack of reliable, updated, recent, detailed and jointly agreed-upon data on the water resources of the Euphrates and Tigris. The non-existence of mutually agreed-upon data clearly counts as a factor obstructing cooperation and the reaching of further agreements.

Communication Problems

The lack of shared data refers to the main problem within the basin, namely communication. Even within the structure of the JTC, it was not possible to establish clear communication channels. This remains especially true after the suspension of the JTC. Even if there are recent rapprochements of the riparians and even if the water issues are discussed within a broader frame of cooperation, there has been no precise and clear structure for communicating water issues until now.

Fragmented Decision-Making

The existence of communication problems also points to the problem of fragmented decision-making. This holds true in both intra- and inter-riparian aspects. Neither are there clear regional structures, which allow joint decision-making, nor do the nation state capacities of the respective water sectors of the riparians include bodies clearly authorised to deal with transboundary water issues. This point will be elaborated upon in detail within the discussion of institutional capacities later on in this work.

Negative Issue-Linkage

One aspect, which greatly hampered transboundary water cooperation, was the occurrence of negative issue-linkages of water issues with other contested issues.

Negative issue-linkages like this contribute to the embedded conflict structure. One issue, which has been linked in a non-constructive manner to the cooperation between Turkey and Syria, was the question of whether the Orontes River shall be part of the negotiations about the Euphrates. This solution was favoured by Turkey (Scheumann 1998: 120). Another issue-linkage consisted of the fact that Syria had been excluded from an Orontes agreement with Lebanon in 1994. Two further issues linked to potential cooperation on water issues pertain to Syria’s historical claims to the Turkish province Hatay and Syria’s attempt to link the peace process within the Jordan Basin to the Euphrates issues (Daoudy 2009: 377). Last but not least, Syria’s support of the PKK until at least 1998 (Zeitoun and Warner 2006: 446) accounts for another issue-linkage making cooperation even more difficult.

Furthermore, water issues have always been interlinked with oil in Iraq and Turkey. For example: When the Atatürk Dam was filled in 1990-91, Iraqi oil exports to Turkey plummeted and the agreement between Turkish and Iraqi oil companies was suspended.

This is how Iraq attempted to put pressure on Turkey to shorten the filling period (Scheumann 1998: 123).

A further example for non-constructive Issue-Linkage is the fact that in an attempt to link their downstream position with international issues and concerns, both Syria and Iraq tried to block international funding for the Turkish GAP several times and formed alliances with NGOs and other institutions like the World Commission on Dams (Daoudy 2009: 377).

Iraq, on the other hand, pressured Syria several times by drawing on the ideology of the Arab brotherhood (Daoudy 2005: 119, after Zeitoun and Warner 2006: 442).

Additionally, all riparians have interlinked water issues with security issues within a region which was "[…] blighted by tensed political relations anyway" (Kibaroglu et al. 2005: 2). This shows again, how water tensions between the riparians negatively affected the overall relations on an economic, political, cultural and social level and vice versa (Sagsen 2006: 83).

Even if the issue-linkages outlined above could be described as non-constructive, it will be shown that some of them turned into positive forms of issue-linkage allowing and fostering cooperation. This positive development depended on a changed perception of the issues interlinked and their assumed importance.

Prevalence of Hegemonic Concepts

In addition to the long-lasting prevalence of traditional security concepts which perceived water issues within a military-based construction of national security highly obstructive to regional transboundary water cooperation, another hegemonic concept defined and somehow still defines (Kibaroglu et al. 2008: 223) the regional approach

towards water issues: The *Hydraulic Mission Concept* – however, it is also not very conducive towards sustainable and common transboundary water management.

The Hydraulic Mission Concept demonstrates a paradigm within the modernity framework and entails a vision to which the developed countries were dedicated from the 19^{th} century until the 1970s. It refers to “[t]he ability to rearrange the natural and social environment through dam construction and demonstrates the strength of the modern state as a techno-economic power” (Barnes 2009: 525). Particularly, developing countries still apply such an understanding of reflexive modernity and a technocratic focus (Kibaroglu et al. 2008: 228-229) “[…] because they see it as reliable path of economic development and they are reluctant to recognize environmental dangers of this aspiration” (Kibaroglu et al. 2008: 229). Despite recent changes in riparians’ recognition of a broader development approach, Turkey, Syria and Iraq still apply the industrial modernity approach within their national water strategies (Kibaroglu et al. 2008: 229). It is evident that such one-dimensional development approaches limit the prospects for trustful and equal exchange and cooperation, especially if applied by all three riparians. This will be elaborated upon soon.

4.3.1.3. Country-Specific Factors

In the following section, the respective country-specific factors obstructive to cooperation will be outlined. Those factors mainly refer to the political-institutional properties and the political culture prevalent in the particular riparian states as could be found in theory.

One-Sided Development and Policy Approaches

One country-specific factor shaping the prospects or, better, the obstacles to cooperation is strongly linked to the process factors highlighted above of conducting unilateral development projects and water projects as prestige projects.

Since all three riparians pursued and somehow still pursue policies of food self-sufficiency (Scheumann 1998: 114) and are still caught in the *Hydraulic Mission Approach* (Kibaroglu 2006: 136), which focuses either on agricultural aspects or is dominated by technical perspectives – there is little room for holistic or even regional development plans, which could facilitate cooperation in water issues.

Such one-sided and non-holistic policy approaches go hand in hand with the observable tendency of all riparians to nationalise winnings from the use of the water on the one hand and to internationalise / externalise the costs related to it on the other (Barandat 1997: 164).

Rent-Seeking Behaviour of State Actors and Clientelism

Additionally, such policy approaches accounted and somehow still account for the fact that water and its related policies are deeply affected by rent-seeking behaviour of state actors and are exposed to clientelism in all riparian states.

For example, the wasteful handling of the water resources must be seen in the light that "[…] the governments maintain support from their political clientele by subsidizing irrigation water; if irrigation water is no longer subsidized and charged at its real, and not at zero costs, a political crisis on a national level could emerge, which governments of all riparian countries would try to avoid by transferring the conflict to the international level" (Scheumann 1998: 119).

Inner-state Interests Hampering Transboundary Cooperation

What counts in general for all three riparians as rent-seeking and clientelistic behaviour could be described in a more detailed manner for each country separately as inner-state interests hampering cooperation.

Regarding Turkey, for example, it remains difficult to question the GAP, since it is not only aiming at socio-economic development, but also at regional and nationwide electoral payoffs (Çarkoglu & Eder 2001: 42). Furthermore, it serves as a domestic strategy for solving the Kurdish question (Çarkoglu & Eder 2001: 42) – even if this issue is contestable and the project arguably adds fuel to the domestic conflict. In line with the above-mentioned rent-seeking behaviour of political actors, the GAP clearly accounts for "[p]atronage politics [which] may impede the Turkish central authority from taking technical precautions against environmental degradation, or from properly regulating the water use" (Çarkoglu & Eder 2001: 66).

In Iraq under the Saddam Regime, there was one domestic policy which clearly hampered transboundary water cooperation: The problem of the Marshland degradation was not only related to GAP and its downstream effects, but also to inner-state policies like using the *flood weapon* against Iraqi opposition groups in the south. The directed diversion of water was used as an instrument of "[…] eco-genocide, whereby 57% of the 15,000 kilometres of marshland have been turned into dry land, but also a genocide of the Marsh Arabs, who have been living in these areas for nearly 500 years. […] The reaction from the Marsh Arabs has been to declare a *hydro-jihad*" (Çarkoglu & Eder 2001: 63). On the other hand, purposeful water management was used to secure the loyalty of the Shiites in the Euphrates basin through policies which developed their living standards, which has long been a priority of the Iraqi administration (Çarkoglu &

Eder 2001: 64). Maintaining the agricultural production there, since a reduction of it and the related income losses of Shia farmers would have led to rural and urban unrest was the reason for the wasteful and subsidized application of water (Çarkoglu & Eder 2001: 64). To sum it up, Iraqi water policy and the related use of water was strongly linked to ethnopolitics and to the survival of the regime (Çarkoglu & Eder 2001: 63). Holistic or objective cooperative regional approaches therefore faced strong difficulties to reach the political agenda.

Almost the same policy approach was and somehow still is visible in Syria: Especially the farmers and small landowners in the Euphrates Basin "[…] have been traditionally a source of unrest against the Alawi-dominated Syrian regime. The Syrian government has made efforts not only to provide cheap and abundant water to these small landowners, but also to secure their loyalty through land reclamation policies" (Çarkoglu & Eder 2001: 64). Some researchers even point out that therefore "[w]ater scarcity is constructed and ordered through spatial representations. Rather than accepting the common explanation that scarcity is the result of population pressure […] water scarcity is a consequence of the ruling Ba'th party's continuous promotion of water intensive agriculture […] and is linked to the rural roots of the Ba'th party and the influential Peasants Union" (Barnes 2009: 510). This socially and politically constructed scarcity "[…] is used by both the Syrian government and international agencies to legitimise certain management interventions (Barnes 2009: 516). In this connection not only does the state produce the scarcity, but a range of actors like scientists, water experts, farmers and industrialists "contribute to both the debates surrounding and the material realities of water scarcity" (Barnes 2009: 512).

It is clear that such inner-political circumstances are not at all constructive for a regional dialogue on water issues.

Conflictive Political Culture

Following from the above-scrutinized inner-state factors hampering cooperation it can be concluded that a conflictive *political culture* dominated the riparians at least until the end of the 1990s – a conflictive political culture still present in varying degrees in the different countries today. In all riparian states, there was a tendency to use the water problem as a domestic policy tool. Water disputes have been useful for politicians putting forward real or perceived outside threats in order to unite society against a foreign enemy thereby mobilising political support (Çarkoglu & Eder 2001: 65). Due to the importance of water issues for the domestic political economy water had clearly become a component of security policy – the so-called *securisation* of water issues.

From a constructivist perspective, it is of high importance for a state's foreign policy and attitude whether security is viewed as a uni-dimensional concept, consisting basically of military-political components, or whether it is approached through a wider framework which includes societal, developmental, environmental and human elements (Selim 2003: 334).

In Turkey, Syria and Iraq the traditional concept of security prevailed for a long time and partly prevails today, affecting the riparians´ foreign affairs as well as water issues.

This means especially for Turkey that due to its geopolitical position and historic experiences it "[…] lives, however, with a perennial *insecurity complex*, or a *national security syndrome* as phrased by former Prime Minister Mesut Yilmaz, ill-suited in its position and influence in regional and international politics" (Aydin 2003: 345).

Especially, Syria was perceived – despite Greece – as the main external threat until the end of the century (Aydin 2003: 351). But also the build-up of the Iraqi military arsenal during the 1980s, including strategic weapon systems, chemical and nuclear capabilities, caused strong concerns resulting in the reality that Turkey felt overpowered by its neighbours (Aydin 2003: 353). In addition to those perceived external security threats, there was the strong political resistance struggle of the oppressed Kurdish people through the militant PPK since 1984. This uprising was answered by the Turkish state with the military option only, resulting in the fact that until almost the end of the century the Turkish state spent one-third of its national budget on combating this movement (Güven 1997: 145).

As a result of these perceived external and internal security threats and at the same time Turkey's aspirations to embed itself into economic and rational military structures, "Turkey remained caught in a somewhat schizophrenic *two nation project*: tending towards a more horizontal, liberal, open Western region governed by the *Lockeian* logic of peace, as well as a vertical, more closed East, governed by the *Hobbesian* logic of war" (Warner 2008: 280). These distorted psychological conditions, security perceptions and realities greatly hampered cooperation towards its neighbours.

Syria always had a radically traditional and nationalist view on the question of regional and global security (Selim 2003: 333) and has similarly played the military card. Like Turkey, it is caught in a somewhat schizophrenic situation with regards to its inner and external policies: "In this policy, the paradox of the Syrian state is manifest: a nation-state with a narrowly defined nationalist agenda of security (in food and other respects), but at the same time an active participant in the world market (exporting cotton and other products)" (Barnes 2009: 520).

Last but not least, Iraq under Saddam was also caught in a security dilemma, focussing on military security and military armament against Syria and Iran.

Such descriptions draw a picture of a region caught in a self-produced security dilemma, which left little space for constructive and open dialogue.

4.3.1.4. Factors of International Context

In the following the factors related to the international context in terms of being obstructive to cooperation will be outlined. Such factors mainly refer to the international setting of the dispute like the state of the bilateral relations between the riparians and the influence or adherences of international organisations and other international actors.

Political Isolation and Exogenous Uncertainties

In addition to the country-specific factors and the embedded problem structure, which also relate in some way to the wider international context, some genuine factors in relation to the international context will be discussed in the following.

Due to the politically tense circumstances in the whole region, which are exemplified by the Iraq-Iranian War of 1980-88 and the US-led coalition attacks on Iraq in 1991 and 2003, but also due to the political isolation of Syria until recently "[…] little, if any, international news about the dwindling rivers came out. Due to this geopolitical situation, little focus has been placed on the water conflicts between the three states in managing the two rivers" (Trondalen 2008: 160).

Negative Influence of International Organisations and International Support

Despite the mediation efforts made by third parties elaborated upon above and recent constructive engagement to be detailed later, there have been forms of international support, which clearly hampered regional water cooperation.

Turkey, for example, was for a long time the third largest recipient of US financial and political support in the region (after Egypt and Israel), which reinforced regional inequalities and strengthened Turkey's dominant position. In general, Turkey "[…] was relatively unconstrained in its development of the shared rivers and it enjoyed a supportive international community" (Zawahri 2006: 1051) until the end of the last century.

On the other hand, the British Government strongly supported Iraq in the early times of the *Hydraulic Imperative*, adding to the wasteful water application routines. New alliances and associated support such as the US support of Iraqi interests after the second Gulf War also exerted negative influences on the region and its water issues (Zeitoun and Warner 2006: 449).

Earlier, the East-West-Conflict prevented holistic and common regional projects since such proposals by the riparians "[…] were impeded by the conflicting interests of the Eastern and Western alliances, which supported either Syria´s or Turkey´s efforts" (Scheumann 2003: 748).

All this shows that there have been times when neither the regional nor the international, nor the mutually influenced country-specific factors have been favourable towards real cooperative attitudes and sustainable, holistic solutions.

History of Foreign Conflict and Mistrust

Summarizing the outlined history of the disputes between the riparians, its problems, processes, country-specific factors and the factors of international context, one can say that the history is strongly characterised by foreign conflict and mistrust which shaped and partly still shapes the overall relations in general and the disputed water issues in particular.

Without delving into the detailed relations among the riparians again and their changing and contested forced triangle, the rivalry between Turkey and its Arab neighbours stands out as the main factor which formed the water dispute for almost a century and created an overall atmosphere of mistrust. Furthermore, since the Ottoman domination of today's Syria and Iraq and the beginning of the Arab rebellion against the empire, there has been a decisive anti-Turkish Arab nationalism (Büven 1997: 150). On the other hand, Turkey's aspiration of being an emerging power or regional hegemon was often directly linked to such historically grown wishes of Turkish supremacy over its Arab neighbours, which, in turn, reminded them of that prior Ottoman domination (Barandat 1997: 161).

4.3.1.5. Institutional Factors

In the following, the institutional factors seen as obstructive towards cooperation will be outlined. Since it was theoretically found that the *institutional design matters*, the intra- and inter-riparian institutional setting regarding water issues will be analysed.

The institutional factors, which hampered effective transboundary water cooperation, refer mainly to two aspects. One aspect is the prevailing weakness of inner-state capacities of the corresponding water sectors and their administrations. And the other

aspect is the insufficient ability of the water regime structures already established by the riparians, more precisely the weakness of the JTC. First, the sectoral capacities of the riparians shall be discussed.

Although Turkey's transboundary water issues fall in the realm of the Prime Minister's Office and the Foreign Ministry, Turkey's water policy and management are subject to several national ministries and executive administrations (Kibaroglu et al. 2005: 11). Despite this executive policy level, the administrative set-up for water resources is highly fragmented with overlapping responsibilities (Kibaroglu et al. 2005: 12). Therefore, there is the repeatedly stated expert proposal that "[w]ith respect to coordinating transboundary water development actions and mitigating negative impacts, the administrative set-up in Turkey needs further attention to foster transboundary cooperation in which some state agencies could play a greater role" (Kibaroglu et al. 2005: 17).

These weaknesses – overlapping or unclear competencies and capabilities in need of upgrading – of the water sector are also occurring in Syria and Iraq. Often even to a higher degree since the overall developmental status of the two downstream countries is lower than Turkey's.

Particularly, for Syria it seems highly problematic that competencies for transboundary water issues are highly unclear, that they are contested and sometimes rivalry between certain public authorities exists. Actually it is in the realm of the Ministry for Irrigation to present Syrian transboundary interests outwards, but the Ministry for Housing and Construction has become more and more involved in this issue.

For Iraq, the situation is similar – despite recent trends of modernization, which will be displayed among the factors conducive towards cooperation – if not worse. Due to the highly centralist order under the Saddam Regime there has been little room for the development of precise capabilities of different public authorities. Nowadays – after the fall of the Saddam Regime – Iraq still lives amidst an overall political dilemma and quite unstable circumstances with regards to political and administrative structures. This is accompanied by inner-state regional rivalries between the Shia-dominated South and the Kurdish dominated North of the country.

To sum it up, such executive and administrative weaknesses in the riparians´ water sectors highlight a very important point: “Water scarcity has two orders. First-order water scarcity is the scarcity of water. Second-order scarcity is that of the capacity to adjust to the scarcity” (Allan 2002b: 30). And here the MENA region in general, but also the E-T Basin riparians have not been – at least until recently – very “[…] environmentally reflexive in its water policy or in its management of water” (Allan 2002b: 24).

As mentioned above, the second aspect with respect to institutional factors hampering transboundary water cooperation lies in the already established water regime structure itself. Actually the JTC, which was established relatively early on, could have played a productive role in maintaining the levels of exchange and even broadened and widened it, but certain structural factors were obstructive.

For example, all the communication between the JTC members was carried out through diplomatic channels (Zawahri 2006: 1053), which resulted in a waste of time, disorientation and creating dispute over the meeting agenda itself – even letters were misplaced. All in all no progress on long-term objectives was possible (Zawahri 2006:

1053). Furthermore, the JCT was equipped with only weak monitoring capacity and suffered from a lack of conflict resolution mechanisms. Therefore, also few incentives for sustainable compliances existed, which frustrated especially the downstream riparians and left room for Turkey's repeated non-compliance (Daoudy 2009: 376).

4.3.1.6. Conclusion of Obstructive Factors

Summarizing the factors obstructive towards transboundary cooperation leads to an outline of the following main findings:

Problem factors

Conflict Type: The underlying type of conflict can be described as a *conflict of relative distribution,* since until now the overall demands do not exceed the average annual discharges of the rivers, although after the full implementation of all intended projects this might be the case. Furthermore, it is a classical *conflict of different use and users.*

Conflict Structure: *Disputed water rights* are the main factor which shaped and shape the underlying conflict structure. The stringent positions of the riparians regarding either historical or geographical claims and the disagreement about the twin versus single basin issue led to the suspension of the negotiations in the early 1990s and are a main cause of the deadlocked conflict structure. Furthermore, it is the *non-acceptance of international water law* especially by the Turkish side that hampered mutual understanding and cooperation. The assumed *dominance of Turkey as a regional hegemon based on coercion* showed only limited explanatory force since its hegemony must be described as at least contested since the riparians were successfully able to apply counter-strategies, especially in changed regional and international contexts. Furthermore, it is more the question of whether water-related *disputes are embedded in a larger regional or international conflict* and whether water is just one issue among others, which could be played out politically. This holds true for the embedding of the

water dispute within the conflict over the Kurdish Issue, the rivalry over regional hegemony of the two different Ba´ath regimes in Syria and Iraq, and block confrontation of East and West – Syria was pro Soviet and backed by the USSR, whereas Turkey was backed by the United States and embedded in western military structures.

Unilateral development projects related to water resources are clearly another problem factor shaping the conflict structure, as is the use of *water projects as prestige projects* in a cultural and political manner. In this sense, projects are often used as symbols of national pride or as regulative forces to help maintain control over societal processes and movements.

Process Factors

The uncertainty of data, communication problems and negative Issue-Linkage are the main process factors hampering transboundary cooperation. One such issue, which has been linked in a non-constructive manner to the cooperation between Turkey and Syria, is the question of whether the Orontes River shall be part of the negotiations about the Euphrates. Other issue-linkages include Syria's historical claims to the Turkish province Hatay, and Syria's attempt to link the peace process within the Jordan Basin to the Euphrates issues. Further, there was the interlinking of water issues with national security issues that have long prevailed in the region and are strongly obstructive towards broader cooperation.

Country-Specific Factors

Among the country-specific factors obstructive towards cooperation, clearly *the one-sided development and policy approaches* applied by the countries concerned and the

inner-state interests hampering cooperation – like *rent-seeking and clientelistic behaviour* – played the major roles.

Factors of International Context

Political Isolation and Exogenous Uncertainties associated with Syria and Iraq have been obstructive factors of international context, as has a certain *Negative Influence of International Organisations and International Support*. This holds true for Turkey since it was relatively unconstrained in its development of the shared rivers and enjoyed the support of an uncritical international community at least until the end of the last century. The above-outlined overall *history of foreign conflict and mistrust* between the riparians added even more fuel to the general fire and particularly contributed to the disputed water issues blaze.

Institutional Factors

The institutional factors, which hampered effective transboundary water cooperation, refer mainly to two aspects. One aspect is the prevailing weakness of inner-state capacities in terms of the corresponding water sectors and their administrations. And the other aspect is the insufficient ability of the already established water regime structures, more precisely the weakness of the JTC.

4.3.2. Factors Conducive to Cooperation

Despite the existence of factors obstructive towards transboundary water cooperation, there have been factors conducive to cooperation in the past and at present, these exist in larger quantities. These have not only led to the rudimentary agreements between the riparians and prevented a violent escalation, but show the potential for more cooperation and a common sustainable regional water regime in the future. These factors will be displayed in the same manner as the factors obstructive towards cooperation in line with

the Analytical Matrix and subdivided into *problem factors, process factors, country-specific factors, factors of international context* and *institutional factors.*

4.3.2.1. Problem Factors

In the following, the respective problem factors conducive to cooperation will be outlined. Such factors refer to the underlying *mode of problem,* namely the conflict type and the conflict structure as theoretically carved out.

Conflict Structure: Water Rights

One of the main problem factors shaping the underlying problem structure are the disputed water rights and their different interpretation. But normative and practical arguments reshaping this issue and especially recent political changes among the riparians towards the issue of water rights are observable.

The normative point is that "[n]o country will carve its negotiation positions into stone. In public, they have however taken fairly categorical positions with little room for manoeuvring. […] A key is to go beyond the political rhetoric and obtain an understanding of their real concerns" (Trondalen 2008: 168).

The practical one is that over the years the perceived and real problem pressure is growing**.** Not only do "[…]scientists ring the alarm bell, and call for more sustainable water management to be taken as a matter of urgency in order to avert irreversible damage in the ET region" (Böhme 2010: 4), but the visible consequences of the poor water quality are also finally getting more attention in public and on the political agenda (Trondalen 2008: 159).

It can further be said that in relation to the outlined dilemma situation, where all riparians at least hypothetically have an interest in cooperation due to their shared

neighbourhood, the default conditions are pushing them to more cooperation since the results of non-cooperation have been getting more costly and severe over the years. Here especially the environmental decline and the increasing rates of salinity in Iraq and South Syria are driving forces of urgent action.

Acceptance of International Water Law and Recognition of Common Needs and Interests

Notwithstanding the putative reluctance of Turkey regarding the acceptance of international water law and Iraq's and Syria's claims of historic rights, all riparians recently moved forward and approached international water law and the recognition of common needs and interest.

On closer inspection, Turkey's position is actually not far from complying with international water law. To recall it: "Turkish authorities claim that *equitable and reasonable utilization* is the most acceptable principle in the allocation of a transboundary river. In order to reach equitable usage of the waters of the two rivers, various socio-economic, legal, hydrological and geopolitical factors in the riparian states should be taken into consideration" (Trondalen 2008: 169) – principles which generally conform to the UN-Convention and the Helsinki Rules. The Turkish proposal that existing and future water uses need not only stem from one river, particularly the Euphrates, actually refers to IWRM principles regarding a basin-wide consideration of the water resources, although the other riparians' concerns have to be heard in order to find agreeable solutions.

Experts summing it up state that "[r]ecently, the Turkish authorities seem to be increasingly recognizing the international rights and obligations that pertain to such international water courses" (Trondalen 2008: 171). Although still not having agreed to

the respective UN-Convention, Turkey is a signatory to several multilateral agreements on the protection of marine environments and freshwater ecosystems like the Ramsar Convention on Wetlands, the Convention for the Protection of the Mediterranean Sea against Pollution and the Convention on the Protection of the Black Sea Against Pollution“ (Kibaroglu et al. 2005: 19).

Iraq and Syria are also leaving behind old paths that claimed historic rights and denied the other riparians' claims. It can be said that all riparians have arrived at a discussion level on water rights (Trondalen 2008: 174).

Furthermore, all riparians have more or less accepted the doctrine of limited territorial sovereignty and refer to the principle of equitable use based on the Helsinki Rules on the Uses of the Waters of International Rivers (1966) and to the principle of good neighbourhood (Scheumann 1998: 127). However, communication problems on how to define and quantify a reasonable and equitable share of demands still exist.

The qualitative change in cooperation has already created room for the recognition of common needs and interest since the "[…] water dispute in the Euphrates-Tigris region has already gone beyond Stage I, where negotiations focus on water rights. Actually, the negotiations have moved forward to Stage II, which is a reflexive stage with an emphasis on the needs" (www.swedishwaterhouse.se).

Based on this reciprocate recognition, the riparians have already established various levels of contact at: the highest political level, the bureaucracies concerned and the relevant business and private entities (www.swedishwaterhouse.se). This shows that the riparians have moved closer to mutual recognition based on a reflection of the

realpolitik in the region rather than adding fuel to the fire of the water dispute (Trondalen 2008: 174).

Positive Hegemony or *Leadership* based on Authority

The problem structure of Turkey as a regional hegemon, which has been outlined above as obstructive towards cooperation, nevertheless offered and still offers incentives for cooperation.

This is mainly due to two aspects: On the one hand, the hegemonic position enabled the downstream riparians to apply counter-strategies which had a great influence on the signing of agreements, especially the one between Syria and Turkey. On the other hand, recent changes are observable in this respect with Turkey's hegemony not only being contested, but also moving towards a more positive attitude and taking a *leadership position based on authority* rather than one based on coercion.

Regarding the first aspect, it can clearly be said that the asymmetries in structural power induced a greater reliance on tactics designed to increase the weaker actors' bargaining power. Counter-strategies like issue-linkages with security aspects applied by Syria and Iraq's internationalisation of domestic concerns about the GAP contributed to the signing of bilateral agreements. Although this was accompanied by a temporal increase in regional instability, it laid the ground for longer lasting cooperation concerning other issues also.

Regarding the second aspect, it can be said that Turkey's hegemonic position could be contested and changed during the years due to inner-state and international aspects towards a more cooperative form of leadership. Here the important factor of time emerged. At the beginning of the process, Turkey was not in a hurry to engage

positively since the GAP would be completed and facts on the ground would have been created. After international concerns, a lack of funding, internal (financial) crises and international rapprochement processes, Turkey had a clear interest in leaving behind its blocking attitude, which made the factor of time an important one for Iraq and Syria (Daoudy 2009: 383).

Therefore, some argue that – contrary to the overall theory of hegemonic stability – especially and "[p]erhaps paradoxically […] asymmetries in power have favoured upstream/downstream interactions towards bilateral if not basin-wide arrangements" (Daoudy 2009: 362).

This paradox is due to the fact that all the interactions of the riparians take place within the frame of a *structural dilemma* – a "process by which the relatively more vulnerable actor paradoxically reaches a satisfactory outcome in negotiating with the relatively more powerful riparian, despite asymmetry in their mutual resources" (Daoudy 2009: 363).

It furthermore shows that despite the pure hegemony exercised by one riparian, which shapes the conflict structure, it is more the question of whether water-related disputes are embedded in a larger regional or international conflict and whether water is just one issue among others, which could be played out politically.

Nevertheless, despite the two bilateral agreements, qualitative water-related results from this recent regional change have not yet materialized. The question of whether the change of the regional context from a hegemonic towards a leadership position brings a solution rather than just a transformation of the water disputes cannot be answered yet (Daoudy 2009: 382).

High Cost of Non-Cooperation

Another factor conducive for cooperation is the high costs of non-cooperation. With the overall problem pressure increasing, the high costs of non-cooperation are likely to act as a further incentive for future cooperation.

Precisely spoken, it is obvious that particularly the 1987 agreement between Turkey and Syria was a result of perceived costs associated with non-cooperation. Turkey could not pay the price anymore of denying an agreement with Syria, since this was the reason underlying Syria's strong support of the Kurdish PKK movement (Scheumann 1998: 133). Despite associated non-monetary costs, the monetary costs for the abatement of the PKK amounted to one-third of the national Turkish budget (Van Edig 2000 & Güven 1997: 145). Syria on the other hand could no longer pay the price of becoming more and more politically isolated, both regionally and internationally, due to its enduring support of the PKK (Scheumann 1998: 133).

4.3.2.2. Process Factors

In the following, the respective process factors conducive to cooperation will be outlined. Such factors refer to the occurring processes shaping the water dispute as theoretically found and built upon in the Analytical Matrix.

(Perceived) Shared Demand

Along with the problem factors, there were certain process factors which led to the regime formation associated with the bilateral agreements and which recently laid the ground for further transboundary water cooperation.

Most importantly, it was the threat of imminent use of the Euphrates and Tigris by Turkey which created new demands for cooperation. The concerned water issues

became so complex and far reaching that the riparians were forced to structure dialogue (Kibaroglu & Ünver 2000: 317). This accounts especially for the efforts Syria and Iraq undertook in order to reach an agreement between them. It was the imminent impounding of the Turkish Atatürk Dam in 1989, which led to first contacts between the rivals after 15 years. “Syria and Iraq perceived the interruption to the flow of the Euphrates […] as the first of many similar disruptions resulting from the GAP activities, and consequently signed a bilateral accord in 1990” (Kibaroglu et al.2005: 62) in order to share the anticipated risks and fluctuations in terms of the rivers´ flows according to a distributional formula. Since then the two riparians have jointly – together with the Arab League – called on Turkey to conduct a trilateral agreement (Van Edig 2000: 145-146).

Shared Data and Information

Another factor, which recently reoriented the process factors towards the establishment of a water regime, is that “[b]y 1998 all three states were willing to provide not-yet published or authorised water-related information to be used in a series of technical studies, based on a commonly accepted scope for the work” (Trondalen 2008: 167). According to Trondalen, this would serve as the base to conduct joint studies in order to come up with a jointly accepted trilateral agreement. With jointly agreed-upon data, one major step towards reducing the transactions costs of cooperation would be made.

Trade-Offs with other Economic, Ecological, Social and Political Arenas

Very important for shaping the process factors towards the establishment of a water regime are mechanisms to balance incentive structures and the associated trade-offs with other economic, ecological and social issues, as well as politics, among the riparians. This refers to two aspects: First of all, perceived trade-offs already are one of

the main reasons for the recent constructive rapprochement between the riparians. Secondly, they are the base for a possible application of the Benefit-Sharing concept in order to set further incentives to reach a trilateral agreement in the near future.

Especially, the cooperation within the primary sectors of socio-economic development related to water, like energy, agriculture and health, and the cooperation within the sectors of trade, investment, transportation and banking have already been beneficial for the overall relations among the riparians. Such tendencies have augmented since the 1990s and experienced a boom since the beginning of the new century.

Although the 1987 agreement between **Turkey and Syria** already included linkages to other sectors – except the water accord – like supplying Syria with electricity generated in Turkey (Scheumann 1998: 123), the real turning point for economic cooperation was the Adana Protocol in 1998. After major security concerns had been solved, several meetings and agreements particularly boosted the economic relations between the two countries including on water issues.

A JEC meeting in 2003, for example, covered the economic, scientific, technical and commercial issues in the health sector. Since then the Joint Working Group of the authorities of the Ministries of Health combats waterborne diseases, shares information and offers joint medical treatment (Sagsen 2006: 72). Also in 2003 there was an important meeting that made the decision to finalise a Free Trade Agreement between Turkey and Syria, which came into force in December 2004 (Sagsen 2006: 74).

In January 2004, the two countries signed *The Agreement of the Avoidance of Double Taxation*, which also covered the dispute settlement of the questioned state borders. Within this agreement, Syria approved the province Hatay as a sovereign part of Turkey

– an issue which had fuelled the water dispute for a long time (Sagsen 2006: 74). Also in 2004, President Bashar Assad became the first Syrian president to visit Turkey. During this visit, the parties signed an agreement regarding Land, Marine and Air Transportation (Sagsen 2006: 81). As a result of this mainly economic rapprochement, the trade volume between the two countries increased within 10 years (1994-2004), by about 150% up to $755 Million (Sagsen 2006: 74-75). Recently the two countries even described their relations as a *strategic partnership*, which will provide economic benefits and offer gains for the whole region (DayPress 10/11/2010; http://www.dp-news.com/pages/detail.aspx?l=2&articleId=57974).

The economic relations between **Turkey and Iraq** have been relatively good regardless of the prevailing water dispute. Here the main issue was the oil trade. Since 1973, the *Iraqi-Turkey Crude Oil Agreement* included the construction of pipelines and the use of Turkish harbours for international export (Sagsen 2006: 85). The trade volume reached $2 billion annually between the two countries before the Gulf War in 1991, which was a turning point for these economic relations (Sagsen 2006: 87). Since Iraq was an important export country for Turkey, the allied invasion and the Iraq War strongly affected the Turkish economy. But politically the relations have improved since 2003 due to the re-establishment of governmental structures in Iraq (Sagsen 2006: 84) and the important role Turkish companies could play in the reconstruction process (Sagsen 2006: 94). Since 2005 Turkey has even been selling electricity to Iraq (Sagsen 2006: 95).

All three countries established several other forums of cooperation, such as *The General Trade Agreement* (June 1993) and *The General Interconnection Agreement* (1996) (Sagsen 2006: 69). Within the context of the latter, the three countries plus Egypt,

Jordan, Lebanon and Libya established the *Interconnection of the Electric Systems of the Seven Countries* (Sagsen 2006: 69) aimed at providing energy at lower costs and more efficiently, levelling the needs and creating a common market within the electricity sector. Since 2000, the transit railway connection between the three riparians was reopened, which had been blocked due to Syrian restrictions (Sagsen 2006: 93).

To sum it up, the relations between the three countries mainly developed due to economic cooperation on a sectoral basis (Sagsen 2006: 95). Lately, there has been a positive tendency towards cooperation also in water-related sectors, like agriculture, health, energy, environment, and an overall warming of relations (Sagsen 2006: 96).

According to the Benefit-Sharing approach, it can be expected that if "[…] the riparians go into cooperation in the sectors such as agriculture, energy, transportation, health, trade, investment and in the fields of common interest, such as environment protection, pollution reduction, decreasing all costs, this cooperation would facilitate to solve their problems" (Sagsen 2006: 95). Since they have already been jointly engaged in water issues, it is evident that functional spill-over effects between economic, political and water policies exist. This means that the establishment of other regimes in different political and economic arenas would be beneficial for an in depth water cooperation – an argument put forward by several experts and actors engaged in the basin: "multiresource-linkages may offer more opportunities for generating creative solutions, allowing a greater economic efficiency through a basket of benefits" (Akanda et al. 2007: 7).

Positive Issue-Linkage

These trades-offs elaborated upon above could be linked positively to water issues in order to broaden the mechanisms to balance incentive structures.

Furthermore, such positive issue-linkages have been crucial in concluding the existing water regimes. For example, the 1987 agreement between Turkey and Syria […] could be concluded because security matters and the topic of water were negotiated simultaneously" (Scheumann 1998: 122). Such linkages show that even in the past the water disputes "[…] are much more the outcome of outstanding issues than the result of a *water crisis* (Scheumann 1998: 126).

Similar processes of positive issue-linkage are evident when looking at the relations between Turkey and Iraq. Both countries discovered that the Kurdish issues could be much more of a unifying factor, rather than a dividing one, and approached the ambitions of Kurdish separatism as a common threat. Since the second half of the 1980s, the two parties conducted joint tacit military cooperation in the fight against the PKK. At the price of more compliant behaviour on the water issue, Turkey was even allowed to carry out cross-border operations into northern districts of Iraq (Kibaroglu 2008: 188).

Such types of positive issue-linkage prove that if central non-water issues are solved, or at least linked in a positive manner, the prospects for joint water initiatives are likely to improve (Kibaroglu et al. 2005:55).

De-Securitisation of Water Issues and New Agenda Framing

The replacement of the highly securitised water issues together with an overall new agenda framing towards water issues represents another process factor, which can be held responsible for a more cooperative manner in the recent past and the near future.

Despite the countries´ choice in approaching water issues more positively within the national security perception, there was an overall notion in security policy to consider

national security not only in terms of military security, but also in terms of socio-economic security. Almost the whole Middle East underwent this change in security perception in different degrees and “[o]ne of the main highlights of this change has been ruling out the option of war” (Selim 2003: 343).

A change is also observable within the Hydraulic Mission Concept, which developed towards an environmental security agenda. Against this background “even highly politicized and securitized environmental issues such as the water issue in the E-T Basin can be approached in a sensible manner […] by acknowledging the cooperation and collaboration efforts in the basin” (Kibaroglu et al. 2008: 223). This goes along with the growing awareness of ecological health as an essential component for the regional order (Kibaroglu et al. 2008: 224). However, these processes conducive towards regional water cooperation are not only a result of regional changes, but also of global ones, which will be discussed later in this study.

4.3.2.3. Country-Specific Factors

In the following, the respective country-specific factors conducive to cooperation will be outlined. These factors mainly refer to the political-institutional properties and the political culture prevalent in the particular riparian states as could be found in theory.

Positive Domestic Policy Changes

The variety of country-specific factors conducive towards cooperation, which have been occurring within Turkey, Syria and Iraq, can clearly be categorised as positive domestic policy changes that are internal political processes of democratisation and liberalisation.

Regarding Turkey, such processes are evident since the end of the 1990s. They occurred due to the internal digestion of the last military coup in 1980, the slight progress in

dealing with Kurdish conflict and external events like the fall of the Soviet Union and Turkey’s aspirations towards the EU.

Also, already since the 1980s the process of neoliberal transformation including policy changes within the irrigation sector and towards the liberalisation of the agriculture sector pushed by the WB, EU and Organisation for Economic Cooperation and Development (OECD) led to a foreign trade orientation, making Turkey more prone towards its relations with its neighbours (Kibaroglu et al. 2010: 287). The privatisation activities of irrigation water schemes not only led to more efficiency, but also to a greater stakeholder involvement (Scheumann 2002: 15). The private sector involvement in the hydroelectricity business has since then been calling for freer markets and transboundary exchange of resources (Kibaroglu et al. 2010: 292). The changing of national water policy led to more participation overall and especially of environmental NGOs, foundations and associations campaigning for more environmental awareness. There is now an ongoing promotion of an indeed neoliberally inspired, but more sustainable way of water management (Kibaroglu et al. 2010: 300-301). The recent adoption of the Law on Renewable Energy is a further major step for bringing legal settings in line with the EU-Energy Directives (Kibaroglu et al. 2010: 292), creating more efficiency and market behaviour and with it the need for transboundary cooperation.

In Syria, major economic reforms and liberalisation efforts have occurred since 2000 under the new presidency of Bashar al-Assad – successor to his father, Hafiz al-Assad. Syria has since undergone several processes of market liberalisation and altered foreign policies. Especially its economic relations with Turkey have improved – at present Turkey is one of the most important countries for Syrian exports (Sagsen 2006: 72).

Recent statements from political actors like the Syrian minister of irrigation, Nader al-Bunni ("We meet regularly with our counterparts from Lebanon, Jordan, Iraq and Turkey and have an open dialogue with them. The exception is Israel" (Syria Today, January 2010)), point to the fact that there is no hot water conflict anymore between Syria and its neighbours (bar Israel).

Since the allied invasion in 2003, Iraq is often described as a newly *democratised* country. With all its prevailing weaknesses, uncertainties and instabilities, Iraq has since the fall of the Saddam Regime also demonstrated a more cooperative foreign policy – be it due to internal efforts or external dependencies. Just recently, the Iraqi minister of water resources, Abdul Latif Jamal Rashid, stated that the environmental problems and the dispute over water rights were a lingering legacy of the dictatorship and must nowadays be approached in a cooperative transboundary manner, accompanied by internal efforts of improved water management (New York Times, June 12, 2010).

4.3.2.4. Factors of International Context

In the following, the factors related to the international context in terms of being conducive to cooperation will be outlined. Such factors mainly refer to the international setting of the dispute like the state of the bilateral relations between the riparians and the influence or adherences of international organisations and other international actors.

Good Current Bilateral Relations and Regional Integration Process

As outlined within the assessments of the process and country-specific factors, there are several indicators of an overall improvement regarding the bilateral relations of the riparians affecting the cooperation in terms of transboundary waters as well. The occurring and already realised trade-offs with other economic, ecological, social and political arenas, materialised

positive Issue-Linkage, the de-securitisation of water issues and positive domestic policy changes not only have led to the establishment of regimes in other fields of cooperation but enlarged the scope of action for transboundary water cooperation (Kibaroglu 2008: 191).

Although such improvements in the riparians´ relations still remain mostly bilateral, there are some processes of regional integration further enhancing the prospects for basin-wide cooperation and tripartite dispute settlements. The displayed regional economic and energy-related regimes of cooperation – like e.g. the Syrian-Turkish Free Trade Agreement – go in this direction.

Membership and Adherences to other International Organisations and Regimes

Among the memberships and adherences to other international organisations and regimes, Turkey’s process towards EU accession is clearly the most influential one. Since the decision of the European Council in December 2004 to open accession negotiations in October 2005 with the possible outcome of full Turkish EU-membership with an entry date of 2015 at the earliest, Turkey has made considerable progress not only in internal democratisation processes, but precisely in environmental law and transboundary water issues. In order to become a full member of the EU, Turkey has to fulfil the *Copenhagen Criteria*. This comprises full implementation of EU Law – the so-called *acquis communautaire* – including environmental law and the EU Water Framework Directive (WFD) in particular. The WFD calls for both proper national water management and transboundary coordination (Kibaroglu et al. 2005: 1). Even if a precise date for the EU accession of Turkey is not yet predictable, the process is strengthening legal transboundary aspects and enhances the prospects for a trilateral agreement (Trondalen 2008: 171; Böhme 2010: 9).

In fact, the 2004 Progress Report of the European Commission called for Turkey to enhance and speed up transboundary cooperation with its neighbours (European Commission 2004, after Kibaroglu et al. 2005: 1). Recently the implementation of WFD has started (Moroglu & Yazgan 2008: 277). Engaging in trilateral negotiations is not only crucial for Turkey if it wants to achieve its objectives of joining the EU but also for securing funds in order to finish the GAP (Akanda et al. 2007: 4). Such processes already reshaped Turkey's management of its own and its transboundary rivers – and will continue to do so even more in the coming years (Trondalen 2008: 161).

Syria also underwent a recent rapprochement towards the EU. In 2004, the two parties signed the EU-Syria Association Agreement – a partnership agreement, which aims at creating a free-trade zone (Barnes 2009: 525). Such an agreement goes along with an overall opening of Syrian foreign policy and implies further rapprochements towards other EU-initiatives and a more cooperative manner in general.

Window of Opportunity

The international context represents a historic window of opportunity for better transboundary water cooperation. However, there are more aspects: Some argue for example, that the "[…] increased tension between Iran and the US is also impacting on water co-operation" (Trondalen 2008: 161), forcing the riparians towards a more cooperative attitude. The crisis over Iraq also represented a reason for the rapprochement between Syria and Turkey, since a changed US policy as well as commonly perceived threats and interests pushed Syria to develop closer ties with Turkey (Altunisik & Tur 2006: 230, after Kibaroglu 2006: 147). Turkey on the other hand lost the support of an uncritical international community, and actors like the EU

and a strong NGO network are now pushing it toward more transboundary water cooperation. Therefore, today more than ever, all riparians have a strong interest in water cooperation (Zawahri 2006: 1051).

International Agenda Setting towards Cooperation

These regional efforts fostered by an international context are accompanied by an overall norm establishment and norm implementation on the global agenda towards environmental and water issues in general and the call for transboundary water management and regime building in particular.

The long way from Stockholm 1972 (UN Conference on the Human Environment), Mar del Plata 1977 (UN Water Conference), Dublin 1992 (International Conference on Water and the Environment) and Rio de Janiero 1992 (UN Conference on Environment and Development) laid the ground for a positive sanctioned discourse in which the sustainable and cooperative utilisation of water resources is no longer questioned internationally from a normative perspective. Based on the outcomes of the international conferences and the respective norm establishment, a bundle of general principles and norms functioning as guidelines for effective and equitable management and use of water resources are already in place despite their non-binding legal character (Kibaroglu & Ünver 200: 321). This shows that there is little dispute about the goals aspired to, but rather about timing and implementation.

Role of Mediators and Facilitators

In times of deep crises among the riparians, the existence of regional mediators and facilitators was obviously very conducive to avoid the break out of military conflict or even war.

During the crisis of 1974-75 over the Keban and the Taqba Dams, which brought Syria and Iraq to the brink of war, Saudi Arabia functioned as a mediator for conflict resolution and brought Syria and Iraq back to the negotiating table achieving a settlement of the dispute (Böhme 2010: 12).

When the dispute between Turkey and Syria reached its heights in 1998 due Syrian support of the PKK and the Hatay issue, and Turkey threatened counteraction against Syria, suggesting that all measures, including military means, were on the table, the negotiation efforts of Egyptian President Mubarak and Iranian Foreign Minister Kharrazi were able to settle the conflict (Scheumann 2003: 751).

Support of International Organisations and Third Party Involvement

Several international organisations are already engaged in the region in order to boost regional cooperation and to set incentives for cooperative transboundary water management. Among them, the EU certainly plays a big role, which is likely to increase due to Turkish membership aspirations and the EU-Syrian Partnership Agreement mentioned above. Furthermore, Turkey and Syria are partners in the EU Water Initiative (EUWI 2008), which creates even more awareness for institutionalised transboundary water management (Böhme 2010: 17).

Within the institutional set of the UN, the United Nations Development Programme (UNDP) has tried to facilitate talks between the riparians for several years. The UNESCO with its programme from Potential Conflict to Co-operation Potential (PCCP) is also already engaged in the region, mostly providing expertise, publications and workshops on the issue through diplomatic Track II initiatives (Trondalen 2009: 24). The UN ESCWA (United Nations Economic and Social Commission for Western Asia) also runs projects in the region for enhancing transboundary cooperation, but since

Turkey is not a member, the actual influence on trilateral agreements will be limited to capacity building and improved sector performance of Syria and Iraq. Other UN organisations like the Food and Agriculture Organisation and the WB iteratively stated their willingness to assist the parties (Trondalen 2008: 168). Here the WB could play an important incentive-setting role since it has rejected funds for the Turkish GAP until a multilateral agreement between the riparians is concluded. Trondalen, for example, highlights the World Bank-hosted Global Environmental Facility (GEF) and proposes the GEF play an important role in future transboundary cooperation in the region. The legal instruments of the UN have only limited influence since Turkey is not a signatory of the United Nations Watercourses Convention and they are not legally binding (Burleson 2005: 10050ff, after Böhme 2010: 17).

Due to the history of engagement in past conflicts among the riparians, the League of Arab States (LAS) is often proposed as a possible third party to play a constructive role. This might account for disputes between Syria and Iraq, since both countries are members of the Arab League, but since Turkey is not a member and mistrust between the organisation and Turkey still prevails, it is less likely that the League will be engaged in a tripartite agreement (Böhme 2010: 17).

Without going into too much detail, other actors active in the basin are the Arab Centre for the Studies of Arid Zones and Dry Lands (ACSAD), the Centre for Environment and Development for the Arab Region and Europe (CEDARE), the Environmental Law Institute (ELI), the International Centre for Agricultural Research in the Dry Areas (ICARDA) and several regional universities (Böhme 2010:18).

This engagement points to international concerns and interests in supporting a positive handling of the water dispute. It can be assumed that without such engagement –

including that of the mediators – historic developments would have been worse and that due to the overall positively altered attitude of the riparians towards cooperation, several efforts in facilitating cooperation by these organisations can be achieved. Such activities certainly include "[…] conducting separate talks with government, exerting pressure on parties, offering services, capacity development and /or financial support for setting up and implementing measures and/or formal agreements" (Böhme 2010: 18).

Epistemic Communities and Civil Society Engagement

Recent developments, including new approaches towards boosting transboundary water cooperation, which deserve special emphasis, are multi-track communications undertaken by the recently established non-state ETIC and other civil society movements engaged in the issue.

Founded in May 2005 by a group of scholars, retired diplomats and high-ranking officials from the riparian countries and the US, the non-profit initiative ETIC aims to support unofficial, informal initiatives between the three countries in order to facilitate future formal government level agreements (Böhme 2010: 19). The ETIC cooperates with different universities and think tanks from inside and outside the region. Local partners are the respective water ministries of the riparian countries and NGOs. The ETIC gains more and more attention from international organisations and at conferences and its high-level support is said to increase its ability for problem solving and conflict prevention. Also as a platform for discussion, it receives more and more acceptance from the governments involved (Bulduk 2008: 272).

Civil society organisations and movements on a grassroots level include the Alternative Water Forum, the World Social Forum Movement and in particular, the Mesopotamian Social Forum, which was just established last year and brought together civil society

movements form the region. Especially the *Initiative to Keep Hasankeyf Alive* proved to be influential within the struggle against the Ilisu Dam by creating international alliances and gaining international attention.

4.3.2.5. Institutional Factors

In the following, the institutional factors conducive for cooperation will be outlined. Since it was theoretically found that *institutional design matters*, the intra- and inter-riparian institutional settings regarding water issues will be analysed.

Despite the outlined weaknesses of the institutional capabilities being identified as a main factor in terms of the ongoing inability to achieve a multilateral agreement, the established institutions and recent developments also show cooperative potential.

Although the JTC could not fulfil its aims and has been suspended since the mid-1990s, it showed the way to build a negotiation framework for data sharing and project coordination (Kibaroglu & Ünver 2000: 311). It also served as a useful channel of communication (Kibaroglu et al. 2005: 62), facilitating the signing of two bilateral agreements. A further promising factor is the fact that these institutional settings will be followed up again.

Furthermore, there are several intra-riparian sector developments, which are likely to facilitate cooperation in future. All countries recently improved the performance of their domestic water sectors and administrative capabilities. This development is likely to have spill-over effects on transboundary institutional capabilities.

Iraq clearly underwent the strongest processes of institutional reform. The Ministry of Water Resources in Iraq has been completely reorganised. The highly centralised format

under Saddam has been decentralised with clearer technical and administrative duties including modern approaches and practices. This new institutional framework came along with the "[…] establishment of a complete and updated information database, which comprises information about water quantity and quality, particularly as it relates to water supply and management, as well as implementation of integrated water resources management at the river basin level" (Kibaroglu 2008: 190).

Syria is also currently in a process of reforming its water sector. Supported by a German Technical Cooperation (GTZ) programme, Syria aspires to introduce an integrated approach to water resource management including a sectoral dialogue and a joint assessment of the water sector. Within this programme, Syria currently improves the information management system and the performance of fragmented responsibilities within the sector (www.gtz.de).

In terms of institutional and sectoral reforms, Turkey is one step ahead of Syria and Iraq. Since the late 1980s within the context of structural adjustments and liberalisation policies, the water sector and especially the water-related techniques and approaches applied in agriculture have been reformed (Scheumann 2002: 5). This increased efficiency and expertise enables knowledge transfer and already liberates some resources so that they can be dedicated to transboundary issues as can be seen in some Turkish funded institutes and centres of research.

When politically accepted, the above-mentioned diversification of non-state entities like the ETIC and the social movements, will also offer institutional and administrative capabilities to facilitate and strengthen transboundary water cooperation.

4.3.2.6. Conclusion of Conducive Factors

Summarizing, the factors conducive towards transboundary cooperation can be outlined:

Problem Factors

The obvious growing *acceptance of international water law and the recognition of common needs and interest* – like Syria and Iraq being signatories of the UN Water Convention and Turkey having signed other environmental and transboundary related treaties and being in the process of implementing the EU WFD – display the legal rapprochement and tend to be constructive for cooperation. Furthermore, recent changes are observable with Turkey's hegemony not only being contested, but also moving towards a more positive attitude and taking a *leadership position based on authority* rather than one based on coercion and it may be that paradoxically asymmetries in power structures have favoured basin interactions and the two bilateral agreements. This holds true as well against the *Increasing Cost of Non-Cooperation:* the 1987 agreement between Turkey and Syria was a result of perceived costs associated with non-cooperation. Turkey could no longer pay the price of denying an agreement with Syria, since this resulted in Syria's support for the PKK, and Syria, on the other hand, could no longer pay the costs associated with both regional and international political isolation.

Process Factors

Among the process factors, clearly the perceived shared demand and growing interdependencies are the main factors conducive to cooperation. More recently, since the launching of the Turkish GAP water issues became so complex and far reaching, the

riparians were forced to structure dialogue. This accounts especially for the efforts Syria and Iraq undertook in order to reach an agreement. The recently realised efforts concerning *Shared Data and Information* count as another conducive factor. *Trade-Offs gained with other Economical, Ecological, Social and Political Arenas* affected strongly and positively both the overall relations and water cooperation efforts in particular. This goes along with the recent occurrence of *Positive Issue-Linkage* since several formerly disputed issues could be transformed and linked positively to water issues in order to broaden the mechanisms to balance incentive structures. Also the *De-Securitisation of Water Issues and New Agenda Framing* in terms of the replacement of the highly securitised water issues together with an overall new agenda framing towards water issues represents another process factor, which can be held responsible for a more cooperative manner in the recent past and the near future.

Country-Specific Factors

The variety of country-specific factors conducive towards cooperation, which have been occurring in Turkey, Syria and Iraq, can clearly be headlined as *positive domestic policy change*. Internal political processes of democratisation and liberalisation are highly conducive towards regional cooperation in general and transboundary water cooperation in particular. Therefore, it can be clearly stated that all riparians are nowadays more concerned about image, international law, reciprocity and limited sovereignty. Due to growing interdependencies, improved relations and adherences to international organisations, they have embarked on new paths of cooperation.

Factors of International Context

It is such country-specific factors shaping the international context as well and leading to *Good Present Bilateral Relations and Regional Integration Process*, which in turn

enhances the prospects for cooperation. Other international factors like *memberships and adherences to other regional organisations and regimes* proved particularly constructive towards cooperation. Since Turkey is applying for EU-accession, it aims at the implementation of the WFD, which explicitly calls for transboundary water cooperation with EU and non-EU members. Syria's EU-rapprochement within the frame of an Association Agreement in 2004 and Iraq's more cooperative attitude within all international bodies since the fall of the Saddam Regime point in the same direction, creating both internal aspirations towards cooperation and external pressure and obligations towards transboundary water cooperation. These regional efforts fostered by an international context are accompanied by an overall norm establishment and norm implementation on the *global agenda towards environmental and water* issues in general and the call for transboundary water management and regime building in particular. Furthermore, certain *Multi-Track Communication and Civil Society Engagements* are occurring, gaining influences and leaving old paths – thereby setting new incentives and possibilities for cooperation as well.

Institutional Factors

Despite the institutional weaknesses, the establishment of the JCT has shown the how to build a negotiation framework for data sharing and project coordination. It also served as a useful channel of communication and facilitated the signing of two bilateral agreements and – as a further promising factor – has been set up again just recently.

These findings in terms of factors conducive towards transboundary water cooperation will be precisely opposed to the already outlined findings on factors obstructive to cooperation within the proximate discussion (Chapter 5). The results gained in this

manner will allow for a concluding opinion towards the factual explanatory force of the factors scrutinised.

4.4. Potential and Limits of the Applied Theories

Out of the analysis of the factors obstructive and conducive towards transboundary cooperation, conclusions regarding the explanatory force of the applied theories can be drawn. Therefore, it will be outlined in the following sections to what extent the assumptions of the utilised theories ring true or not.

4.4.1. Water Wars and Realism

First and foremost, the precise analysis of the transboundary water issues within the E-T Basin clearly serves as an example for the rejection of the simplistic water wars theory.

Recalling both the realist assumption that conflict is the norm between states and cooperation an anomaly and the Neo-Malthusian assumption of violent conflictive consequences of growing water stress it was shown that the riparians did not wage war over water and that the prospects for cooperation increased over time. Furthermore, it could be proven that the interrelations of water issues, cooperation and overall relations among the riparians and the embedding of a water dispute within a whole regional setting is by far too complex a situation for the application of a simplistic theory. Nevertheless, the Hydro-Hegemony approach proved useful in providing some insights into the power politics prevailing in the basin.

Moreover, within the E-T Basin one cannot find a hydrological determinism leading water wars, but rivalries of utilization embedded in socio-economic and political settings shaping the related disputes.

Therefore, the understanding but also the resolution of a “[w]ater conflict in the Euphrates–Tigris basin requires a hydro-political approach that covers legal, political, technical and economic aspects of its multi-dimensional characteristics” (Altinbilek 2004: 15).

Such findings underpin the social science-based understanding of conflicts, on which this work was based, showing that conflicts are part of social action among concerned actors and that it is the ability of the riparians’ societies to institutionalise their conflicts which determines whether their water conflict is played out more in a manner of confrontation or in a more constructive manner of cooperation.

Game theoretic approaches (e.g. Haftendorn) have been useful to classify the conflict among the riparians as a starting point to the in depth analysis. It was shown that the Euphrates-Tigris water dispute is mainly conflictive with regards to the relative distribution and accompanied by disputes over water use and, more recently, about pollution.

Basic works like those of Aaron Wolf and his team with developed indicators for the *BAR* (Wolf et al. 2003: 5) have been useful to show that the water disputes within the E-T Basin have never been worse than ‘– 3’ (diplomatic-economic hostile actions) and still do not exceed ‘+5’ (military economic or strategic support). This shows that the riparians never resorted to the extreme negative events like war (‘-7’), extensive and small military acts (‘-6 ‘/ ‘-5’), but also never moved as far as the extreme positive ones like ‘International, multilateral treaty’ (‘+6’) and ‘voluntary unification into one nation’ (‘+7’). The majority of events among the riparians were anchored in the middle of those extremes, with a centre of verbal actions and – mainly since the turn of the century – a tendency towards interactions with positive connotations (‘+1’ to ‘+4’).

Based on the schematic work of Wolf´s *water event intensity scale*, Zeitoun and Warner developed (see the chapter 3.3) a *Conflict Intensity Frame* (Zeitoun and Warner 2006: 441) embedded in their *Hydro Hegemony Theory*. This categorization of five different stages of conflict development (durable peace, stable peace, unstable peace, crisis and war) and three broad categories (no significant conflict, cold conflict and violent conflict) underpinned the notion that with regards to the E-T Basin the riparians mainly lived within *unstable peace*, then *stable peace with cold relations* and nowadays even in *durable peace* with more or less warm foreign relations, and therefore, in *no significant conflict*.

Due to the complexity of circumstances, which shaped and is shaping the riparians' attitudes towards cooperation, it proved valuable to base this work on an Anti-Malthusian approach and reject the water wars theory. Additionally, to the acknowledgment of broader circumstances, it is the real and perceived demand and problem pressure which bring the riparians into dialogue or not.

A view from a realist hydro hegemonic perspective was helpful to understand underlying structures, but cannot be applied to get the whole picture or even to show alternatives and highlight incentives for cooperation. Analysing the water dispute within the E-T Basin has of course shown that Turkey has a powerful position in both hydraulic and socio-political terms, but that its regional hegemony is contested and constrained due to inner-political, global and regional riparian related aspects (Warner 2008: 271).

Nevertheless, realist assumptions offered a view on the dispute and the opportunity to understand regional and global power plays over water. It could be stated that "water

projects are a flashpoint of domestic, basin as well as global politics" (Warner 2008: 271). Therefore, changes within the regional and global context also alter the prevailing basin dispute as is happening with regards to Turkey's foreign policy approaches, adherences towards international organisations and inner-state democratisation and diversification processes. A *passive revolution* like this is currently opening a *window of opportunity*, which was and still is opened even wider by the hegemonic counter-strategies – such as calling on morality and international law, (de-) securitisation, economic development and exercising agenda-framing and blaming – applied by Syria and Iraq. The internationalisation (e.g. Marshland and Ilisu Dam issue) of disputed water issues seemed to be more conducive to cooperation than conflict (Warner 2008: 271).

A realist approach also served to understand the complexity of security issues interlinked with water issues. Due to Turkey's *rough neighbourhood*, it perceived itself for a long time as living in a *perennial insecurity complex* (Prime Minister Mesut Yilmaz in 2001, quoted in Aydin 2003, after Warner 2008: 278-279). Such perceptions and their changes showed the usefulness of constructivist approaches, to be elaborated upon below. They also show that it is "[…] highly simplistic to dismiss Turkish predominance as merely coercive and destructive, as its opponents have done" (Warner 2008: 284).

By applying such an adapted, less conservative understanding of Hydro Hegemony that is based less on hegemonic stability theories, one can also explain regime formation processes: Due to the changed regional and international circumstances Turkey "[…] has decided to lead in regime formation, despite Lowi's (1993) prediction that upstreamers have little interest in this" (Warner 2008: 285). This move towards a more

constructive form of hegemony – *leadership based on authority* – does not exclude that hegemonic games are still in play as can be seen in Turkey's attempt to determine the discourse (e.g., pushing the Three-Stage-Plan, calling for the single basin option, etc). Within the range of offensive and defensive moves, there is still "[…] a game for control but also to target normative consensus and legitimacy" (Warner 2008: 285).

Regional and international concerns and the raised awareness over the GAP showed how power structures become contested especially once security issues related to the Kurdish question were coupled with the GAP. Since this card is not played anymore, unlikely alliances, e.g., with international civil society movements, have been used to create new discursive frames restraining uncontested unilateral scope of action.

This underpins the notion that a realist approach cannot explain sufficiently how the underlying default condition might have changed for the assumed hegemon, too. Contrary to the theory, which assumes that the *do nothing scenario* only disadvantages the non-hegemonic riparians and that the basin hegemon clearly has an interest in perpetuating the status quo (Zeitoun et al. 2010), it was found that over time all riparians took action towards dispute settlements and towards broader cooperation. Even the assumed hegemon, Turkey, engaged itself in pushing the riparians towards cooperative regime formations in other political and economic arenas, thereby increasing the prospects of dealing with the transboundary water issues in a more constructive manner.

4.4.2. Regime Theory

The application of the Regime Theory in particular offered a theoretical and practical understanding of underlying causes. Firstly, it proved useful in finding out whether regimes in general and water regimes in particular do exist within the basin, how they

perform and what their strengths and weaknesses might be. Secondly, the Regime Theory-based application of the Analytical Matrix Framework proved to be highly valuable in order to classify different factors of regime formation and regime effectiveness. The case-study-related disquisition of the theoretically gained factors constructive and obstructive towards transboundary water management set the frame for an in depth analysis of the water dispute, its causes, its structures and its changes, the results of which were valuable for both the theory development and practical lessons learned for the basin. Furthermore, it might prepare the ground for an analogy with other cases based on similar analytical categories.

Recalling the definition of regimes as “sets of implicit or explicit principles, norms, rules, and decision making procedures around which actors’ expectations converge in a given area of international relations” (Krasner 1983: 2), it clearly can be stated that such regimes and in particular such water regimes do exist within the basin. Firstly, the two bilateral water accords between Turkey and Syria and Syria and Iraq must be seen as regimes in the sense of institutionalised structures of interstate cooperation (List 2007: 226).

Furthermore, the establishment of the JTC fits the definition of an *Institutionalized Negotiation Framework*. Although negotiations within this frame have been blocked since the mid-1990s, it presents a notable effort to build up a negotiation framework for data sharing and project coordination (Kibaroglu & Ünver 2000: 311). The environment of cooperation provided by the JTC at this time was clearly helpful for the agreement between Syria and Iraq (Yetim 2002: 318), albeit a multilateral tripartite agreement is still pending.

The analysis of the water-related events within the basin also showed that the institutionalist assumption of spill-over effects stemming from other political arenas shaping the water cooperation could be verified. This is especially true when recalling that the two concluded bilateral accords were largely products of the then prevailing political atmosphere among the riparians (Kibaroglu et al. 2005: 62) and when pointing to the recent overall rapprochements of the riparians leading to new cooperative attitudes and initiatives.

The perceived shared demand clearly served not as an incentive for waging war against each other, but to establish minimal types of cooperation over the use of the Euphrates and Tigris (Kibaroglu & Ünver 2000: 317). In line with regime theoretical assumptions, the growing interdependence since the end of the 1960s, when all three riparians initiated major development projects, caused greater interactions between the riparians. Even the conflict-prone, highly tensioned times of the mid-1970s and the early 1990s resulted in the cooperation-driven signing of two bilateral accords. Such findings prove that interdependence is not sufficient as a condition for cooperation, but that the establishment of regimes provides the necessary linkage between interdependence and cooperation (Levy et al. 1995, after (Kibaroglu & Ünver 2000: 320). Regimes therefore function as intervening variables between power structures and political outcomes and as catalysts of cooperation by establishing standards of behaviour.

The analytical terms of Regime Theory are also useful to describe the failures of further tripartite regime formation: "The reason behind the failure was that the parties could not reach any consensus on the basic principles and norms (rights and obligations) that would sustain the negotiation process" (Kibaroglu & Ünver 2000: 319). The major issues which impeded a tripartite agreement until now were related to both the subject

and the object of negotiations, e.g., whether the Euphrates and the Tigris should be regarded as one hydrological unit or not, whether both rivers are classified as international or transboundary rivers (this refers to property rights or user-rights), whether the water should be shared or allocated and which procedures and criteria might be applied in order to determine shares and demand. All this shows that it is more the contested principles which have postponed an agreement, rather than the actual amount of water to be shared (Scheumann 1998: 127; Kibaroglu & Ünver 2000: 318).

It further underlines that the very existence of an institutional framework like the JTC is not sufficient since there is no clear and jointly agreed-upon mandate (Kibaroglu 2006: 141). Therefore,

> "[…] the three riparians could not conclude a basin-wide accord mainly due to the lack of regularized institutions and incomplete information. Data regarding stream flow, precipitation, evapo-transpiration, water removals, return flow, salinity, and a host of other variables in relation to land resources are notoriously scarce, incomplete, and open to question in the basin. Information relating to water and land resources of the region is poor and not exchanged on a regular basis among the riparians"
>
> (Kibaroglu & Ünver 2000: 320).

The institutional weaknesses of the JTC – indirect communication, irregular meetings and missing monitoring and conflict resolution mechanisms (Zawahri 2006: 1052) – offered room for non-compliance, hampered a basin-wide accord and led to the continuation of unilateral and uncoordinated water and land developments. This again highlights the institutionalist assumption that the "[…] capacity to respond effectively to water problems […] is dependent upon basin-wide institutional development" (Yetim 2002: 306).

The analytical terms of Regime Theory are useful not only to examine the institutional failures and weaknesses, but also to compile aspects for structuring future dialogue, which would make it easier to go ahead in negotiations. Such aspects have already led to the concrete recommendations displayed in the next chapter.

Recent developments of cooperation within the basin can be explained especially in light of the regime theoretical approach of epistemic communities. Their theoretically assumed importance in the distribution of knowledge, in the establishment of consensual knowledge and in their function as catalysts and mediators between different interests can be practically underpinned. This holds true when analysing the two phenomena of firstly, the ETIC and secondly, the growing inner-Turkish civil society movements connected with international NGO-movements forming new alliances with the downstream riparians. Precisely spoken, both phenomena are in line with the theoretical assumptions of the importance and role of *epistemic communities* and function as *norm entrepreneurs*.

The increased and internationally appreciated activities of the ETIC and the international debate sparked by civil society water movements clearly contributed to a public debate that already impacted and will continue to impact the evolution as assumed by the theory (Lindemann 2009: 703).

Another branch of Regime Theory proved to be very valuable, namely the Two-Level Approach, which takes into account inner-state domestic and foreign policy strategies in order to explain political outcomes and regime formation processes. The case study has shown that the "[…] existing water conflict over the Euphrates-Tigris river basin is an outcome of an intricate two-level interaction between riparian states that involve their domestic political concerns as well as strategic international issues" (Çarkoglu & Eder

2001: 42). Both negotiation processes and the tensioned times of crises were shaped by intra- and inter-state processes of the riparians, which often led to Janus-faced outcomes (Çarkoglu & Eder 2001: 43). And the occurred and occurring changes of negotiation positions are "[…] dynamically related to domestic politico-economic incentives […] as well as the international political environment" (Çarkoglu & Eder 2001: 43-44).

Such a theoretically based analysis made clear also why, compared to history, favourable conditions prevail now, which are likely to lead to more cooperation and a tripartite agreement (Zawahri 2006: 141), since the overall relations and other cooperative regimes have been established among the riparians. The practical challenge remains to operationalise the numerous agreements and cooperative activities in the fields of trade, investment, water, environment, agriculture, education, energy and security issues by establishing a regime framework. This need again refers to the necessity of an adequate institutional capacity of the riparians to implement these cooperative agreements.

The greatest merit of the Regime Theory, however, is to provide a precise and subdivided Analytical Framework. Based on aspects of *Regime Formation* and *Regime Effectiveness* elaborated by Marty and Kipping, it proved highly valuable to group the theoretically found factors within this scheme in order to gain deep and systematic insights into the case study.

Based on the identified five factors or independent variables, which determine regime formation and effectiveness (*problem factors, process factors, institutional factors, country-specific factors* and *factors of international context*) (Lindemann 2009: 701), different factors and layers of conflict could be distinguished in terms of being

obstructive or conducive towards cooperation. Such an analysis is not only the base for classifying this case study and for giving recommendations, but also to make research more comparable and to develop lessons learnt.

Limitations of the theory are that it indeed takes into account the different layers and actors of political processes, but that it is not able to explain sufficiently the occurring changes in the behaviour of the riparians or its environment. Nor does it offer practical tools for overcoming certain inequalities leading to deadlocks. Therefore the Theory of Constructivism and the concept of Benefit-Sharing have been embedded into the regime theoretical-based Analytical Framework.

4.4.3. Constructivism

Testing the assumptions of Constructivism has been very fruitful in order to explain certain changes in the relations between the riparians. Especially, the changes in security perceptions, in the influence of different drivers and actors and in international processes can be understood based on a constructivist background. It proved right to assume that it is the socio-political context, the perceptions and the environment, which determine the playing out of a conflict, rather than the disputed quantities of shared waters.

The different phases dominated by a conflictive or cooperative and, in recent times, even integrative attitude among the riparians proved the constructivist assumption that the interests of states are not static and given. Furthermore, it could be shown that established regimes not only reflect the interest of states, but in turn shape and change them and can even be constitutive for their interests (Zangl 2006: 139-140). This becomes particularly evident when looking at the increased overall economic and political cooperation between the riparians in terms of non-water related agreements.

Looking at the changed security perceptions of the riparians underlines both the high interlinkage of security and water issues as well as the influence of ideational shifts shaping foreign policy. While concepts of military-based national security had dominated the discourse in the region for decades, a recent trend towards a broader understanding of security within the riparians could be identified. The problem of the allocation of the shared water between the riparians was previously shaped by a discourse based on national security. Such changes in security perception and construction equal a de-securitisation of water issues meaning security is not only viewed as a uni-dimensional concept consisting basically of military-political components, but is approached within a wider framework including societal, developmental, environmental and human elements of the region (Selim 2003: 334). This is not only rooted in regional developments and a rapprochement, but also on the global norm shift towards a broader understanding of security, such as the concept of *human security* (Human Development Report, UNDP 1994).

A cognitive linkage accompanied this alteration of perceptions between environment and security. Therefore, it became legitimate to argue for an environmentally responsible security policy leading to environmental issues reaching high politics (Islar & Ramasar 2009: 8). This process took place especially in Turkey where an active and mobile civil society is adding ever more security issues to the official state conceptualised ones (Aydin 2003: 353). There is "[…] an increasing role and influence of public opinion on the changing security concerns of the country. Due to internal and external pressures, the Turkish security discourse now extends to a broader range of actors than it did a few years ago, to include the media and public opinion, which, with

its nationalist rhetoric, inevitably distort perceptions regarding external and internal threats facing the country" (Aydin 2003: 355).

These findings go along with two constructivist assumptions: Firstly, idea shifts are the main vehicles for system transformation and norm shifts – like security constructions – are at least as important as power shifts or rather are mutually dependent on each other (Finnemore and Sikkink 1998: 894). Secondly, transnational actors (like NGOs, institutions, transnational companies, etc.) have a crucial role as transmitter in transnational ideational processes of norm establishment, such as in the E-T Basin. This rings true when looking at the influence of the ETIC and the Ilisu movement with regards to their functions of international agenda setting and establishing policy and transnational advocacy networks (Brühl 2003: 163). This goes along with the aforementioned regime approach of epistemic communities.

By applying a constructivist perspective, it can also be shown "How global norms for large dams reach decision makers" (Scheumann 2008) especially in regards to Turkey. The struggle about the Ilisu Dam and the parallel development of the Guidelines of the World Commission on Dams (WCD) underpinned both the global establishment of norms and the gained influences of civil society movements within such processes:

> "Unlike the traditional path of international policy making for e.g. (e.g. means "for example" – I don't see how it fits here but it's a quote...) establishing international environmental regimes, with nation states being the decisive actors, the World Commission on Dams (WCD) has followed a different non-state-centered approach for developing global norms. The WCD process therefore has been welcomed by many as a prototypical example of how trisectoral networks can help to overcome stalemate in highly conflict-ridden policy arenas" (Scheumann 2008: 55).

The recent cooperation between Turkey and Syria in transboundary water aspects, such as the GAP and GOLD, is also based on a newly gained common understanding of

promoting sustainable development (Kibaroglu 2008). This shows a shift towards norms and ideas and the new discursive frame within the region (Islar & Ramasar 2009: 14).

Recalling the constructivist slogan against simplistic realist explanations of the international system, *Anarchy is what states make of it* (Wendt 1992), it could be said that conflict *and cooperation about transboundary water issues is what states make of it*, since it is the processes of social interactions and constructions of perceived reality that are constitutive for the mode of actions and behaviours among riparians in dealing with water issues.

In summary, it can be concluded that from a perspective of constructivist theory, processes of social learning and discourses have historically taken place and are taking place today to an even greater extent. This becomes evident when looking at self commitments of governments at both the regional (two agreements and cooperative efforts) and international (finance institutions, private companies and donors) levels, when considering the coalition building between international and Turkish NGOs and local actors, when analysing actions of campaigning, influencing and lobbying (Scheumann 2008: 76), as well as when taking into account processes of norm internalisation (WCD and changed security construction) and of changed national identity and legitimate policy options.

4.4.4. Benefit-Sharing and Issue-Linkage

The concept of Benefit-Sharing and Issue-Linkage proved to be valuable for the analysis with respect to two analytical aspects: The first one is to understand how different issues have been linked, therefore hampering or boosting transboundary water cooperation and showing that it is not solely the water issues which formed the dispute. The second one refers more to the practical hypothetical analysis of how stalemates and

deadlocks could be overcome by making shared benefits possible in order to come up with new proposals for the aspired tripartite institutionalised cooperation.

With regards to the first analytical category, it was shown that it had been the costs associated with cooperation which hampered cooperation and that it was and still is the benefits associated with cooperation which enable it. But "[t]hese benefits, or cost, do not necessarily derive from water allocations, but from other disputed topics. Interestingly, agreements have been concluded not only in *friendly* situations, but also in severely strained situations" (Scheumann 2003: 746).

Most of the occurred negative Issue-Linkages which hampered cooperation were related to security aspects, especially in Turkey and Syria. Since there were positive developments in security cooperation, effects conducive to water cooperation emerged. Furthermore, the very first negotiations among the riparians had been interlinked with issues stemming from other sectors. The very establishment of the JTC, which stemmed from a JEC highlights this reality. And "[e]ven the Turkish-Syrian negotiations on the 1987 Protocol covered energy and security issues alongside water issues" (Klaphake 2005: 134). Such cross-sectoral issue-linkage in a negative and a positive manner underpins its importance as both an analytical category and a suitable tool for future negotiations.

Here the problem remains how to achieve equal distribution of possible benefits, since the concept of Benefit-Sharing postulates that international regimes will be more likely to be successful if gains of cooperation are distributed *equally* among the states (Zangl 2006: 139). But recent pockets of cooperation in the fields of joint infrastructure, energy and health programmes seem to be leading the way and pointing to the possibility of finding mutual gains among the riparians.

Since the assumed power structures between the riparians are not the sole determining causes and furthermore have recently been balanced by other regional and international factors, it can be assumed that the cost of non-cooperation in water issues is going to be shared more or less equally, too. As "[n]on-cooperation costs result primarily in inefficient water management, leading to decreasing water quantity, quality, and environmental health […] [and] to years or even decades of efficient, cooperative futures lost" (Wolf 2007: 3.8) all parties find themselves in a structural iterative dilemma situation, which is in general more conducive towards cooperation.

Furthermore, the categories offered by the Benefit-Sharing concept have been fruitful to throw some analytical light on the dispute. Special attention hereby could be given to the *costs because of the river*, which are said to often be hidden but extremely costly and therefore may be especially precious if turned into benefits. The theoretical assumption that costs have significant influence on the political economy of a region leading to a fragmentation of markets, infrastructure, telecommunications, transport connections, labour flows and financial systems and pushing the countries to introduce strategies of self-sufficiency, which put even more pressure on the scarce (water) resources (Sadoff and Grey 2002: 398), was proven empirically in the case of the E-T Basin.

The theoretical assumption of the necessity to negotiate both rights of water use and distribution of benefits holds true as well: firstly, in regards to the historically achieved agreements which all acknowledged certain shares of water implying the acknowledgment of rights; and secondly, in regards to the recent legal rapprochement of the riparians towards the acceptance of international water law and the doctrine of

limited territorial sovereignty, which serves as a conducive base for negotiations over Benefit-Sharing.

The recent diversification of actors involved in regional transboundary water issues can be assumed as conducive for applying Benefit-Sharing, because it is not *states* which have benefits, but actors, organisations or entities. Therefore, ongoing multi-track communication on governmental, scientific and grass-roots levels might offer more tangible benefits for different actors, enlarging the pie to be shared.

Analytical tools incorporated by the Benefit-Sharing approach like the *Continuum of Cooperation* (Sadoff and Grey 2005: 5) have been useful to understand the historical paths of the water dispute. Coming mainly from *Unilateral Actions*, the riparians undertook a measure of *Coordination* and *Collaboration* visible in the two bilateral accords and recent cooperative developments and in the status of *Joint Action* (JTC, ETIC). However, none of these events describes a way straight forward towards assumed overall *Joint Action* leading to *Integration*, which has been interrupted by reversals and stalemates with a recent tendency towards more stable and long-term cooperation.

The second analytical aspect of offering precise proposals for future Benefit-Sharing possibilities also has been fruitful and will be taken up again in the policy recommendations.

Already undertaken regional and international achievements of cooperation and exchange with regards to the Iraqi-Mesopotamian marshland complex of problems already "[…] has shown that it is possible to harmonize basin-wide development efforts

with environmental concerns in a sustainable way if problems can be diagnosed correctly" (Altinbilek 2004: 29-30).

By applying the Benefit-Sharing approach, some experts further argue that GAP may be transformed in the future into a project from which all three countries can benefit (Sagsen 2006 and Kibaroglu 2004: 6), and the ETIC highlights that "[…] Benefit-Sharing among the riparian countries, Turkey, Syria and Iraq, may be the most suited framework for joint development" (Faisal Rifai, executive director of ETIC in Syria Today, January 2010).

The outlined statements regarding the application of the Benefit-Sharing approach underline its already practical importance but point even more to the possible future gains of transboundary water cooperation in broader terms.

5. Discussion

In this chapter, the main findings of this work will be discussed. In order to answer the main guiding research question of *Key Factors of Conflict and Cooperation in the E-T Basin*, firstly a *Résumé* of the historical developments in the basin will be drawn. Afterwards the precisely specified *Key Factors for Conflict and Cooperation* will be set in opposition to each other. Those structural factors have been applied to the case study based on the Analytical Matrix gained through the regime theoretical approach. Based on the discussion of the factors obstructive and conducive towards transboundary water cooperation, the testing of the hypotheses will take place. Out of this analysis the limitations of the applied theories of International Relations in regards to their explanatory force and consequential Research Desiderata will be displayed. This happens in order to answer the second research question regarding the *Potential and Limits* of the theories used. Concluding *Policy Recommendations* for the respective level of intervention – local and national, basin-wide and international – will be given in order to apply the gained knowledge constructively by showing means and measures to boost cooperation on transboundary waters and beyond.

5.1. Résumé: from Conflict to Cooperation

After the in depth analysis of the history and recent developments of conflict and cooperation between the riparians, it can be concluded that an obvious – although slight – process towards transboundary cooperation within the basin has developed over time.

Different stages of the history of conflict and cooperation could be classified. *Harmonious transboundary water relations* prevailed between 1920 to 1960 due to the low degree of utilisation of the waters and therefore limited transboundary effects. *Competitive transboundary water relations* arose from 1960 to the 1980 due to the

rising demand and establishment of large-scale water infrastructure projects and programmes by all riparians causing first transboundary effects. *Political Confrontations and Escalating Transboundary Water Disputes* dictated the 1980s through to the 1990s, because transboundary water issues moved into the realm of high politics and were highly linked with non-water issues mainly stemming from the security domain. However, even in these highly conflictive times the permanent *Joint Technical Committee (JTC)* was established leading to a first *institutionalised tripartite dialogue* from 1983 until 1992. Since the late 1990s the water dispute entered a new stage characterised by *recent developments and an overall rapprochement of the riparians* bringing new perspectives and actors on the agenda of transboundary water politics correlating with significant political changes and improvements in bilateral relations (Kibaroglu 2008: 185).

Within those stages three major crises occurred (1975, 1990 and 1995-96) – all related to the construction or the filling of large-scale dams. Since Turkey announced the renewal of the plans for the Ilisu Dam in 2002 in line with the Southeastern Anatolian Project (Güneydogu Anadolu Projesi – GAP) and launched the precise plans in 2005, the Turkish dam remains a conflictive issue between the riparians and is the object of international concerns.

During the ambivalent times of crises and negotiations, two transboundary water agreements were reached as well. Although bilateral, they represent the clearest water-related regimes within the basin. Though the agreements neither cover acknowledgments over precise procedures nor further cooperation about future developments and both are more or less simple sharing agreements sometimes described as interim agreements, they have survived crises and displayed the possibilities of basic

cooperation: The first agreement was concluded between Turkey and Syria in July 1987. According to this protocol, Turkey agreed to release a yearly average flow of the Euphrates of more than 500 m^3/s (about 16 BCM per year) at the Turkish-Syrian border. The second agreement was concluded in 1990 between Syria and Iraq saying that Iraq would receive 58% of the Euphrates waters and Syria consequently 42% of the amount effectively measured on the Turkish–Syrian border.

Events suggestive of the recently broadened cooperative attitude among the riparians, including on water issues, are represented by the establishment of the *Ministers Cooperative Network* – the respective water ministers have met at various occasions since 2007 – the *revitalization of JTC* meetings since 2007, joint *Training and Capacity Development Projects* since 2007, the establishment of a *common Water Institute* in 2008, the establishment of *High-Level Cooperation* among the riparians with a Benefit-Sharing approach, the holding of *Joint Cabinet Meetings* between the Ministers of Interior, Trade, Energy, Transportation, Water, Irrigation, Health, Education, Culture, Agriculture and Environment of Turkey and Iraq and Turkey and Syria in late 2009, the signing of several *Memoranda of Understandings* including water issues, and the joint conducting of precise water projects like the construction of the Friendship Dam on the Orontes River at the Turkish-Syrian border within the context of the *GAP-GOLD Cooperation Agreement* (Kibaroglu 2010).

Furthermore, there are recent and influence-gaining *non-state initiatives* dealing with transboundary water cooperation like the *Euphrates-Tigris Initiative for Cooperation (ETIC)*. As mainly scientifically based regional epistemic community efforts, such initiatives along with several *regional and international civil society movements and*

Non-Governmental Organisations (NGOs) aim to foster dialogue and exchange among the riparians and call for a sustainable and human-rights-based socio-economic development within the region.

It can be summarized that the Euphrates-Tigris case shows the way towards a broader cooperative attitude and points to the importance of historic and present interrelations of water issues with other issues. Therefore, the Euphrates-Tigris case is a favourable example to underline the complexity and interlinkages of water, conflict or cooperation and socio-economic conditions within a highly political and politicised regional context. Although a sustainable tripartite basin-wide agreement is still pending, "[…] one can predict better cooperation and more productive conditions that would make use of the existing mechanisms and modalities" (Kibaroglu 2004: 8).

5.2. Lessons Learned and Theory Development

5.2.1. Key Factors for Conflict and Cooperation

Based on the developed Analytical Matrix Framework, the Euphrates-Tigris case study provided evidence of key factors for conflict and cooperation. To recall: The work examined five factors or independent variables, which have been said to determine regime formation and regime effectiveness: *problem factors, process factors, institutional factors, country-specific factors* and *factors of international context*. Within those factors, several aspects have been reviewed as being either obstructive or conducive towards cooperation. Among them the main findings of explanatory power have been:

Problem Factors:

Conflict Type: The water dispute within the Euphrates-Tigris-Basin equals a *conflict of relative distribution* since until now the overall demands have not exceeded the average annual discharges of the rivers, although after the full implementation of all intended projects this might be the case. Furthermore, it is a classical *conflict of use* between different and competing purposes like irrigation, hydropower generation and the supply of drinking water. Such a competition of the different uses of the waters is subject to both inter-state and inner-state competition and faces strong natural seasonal fluctuations. Conflicts of distribution are more difficult to deal with than conflicts of use, which have been highly obstructive towards cooperation, but since there is no absolute shortage of the resources, there was and still is room for constructive distributional achievements among the riparians.

Conflict Structure: Main aspects shaping the structure of the conflict have been the *disputed water rights*, which hamper cooperation. This is due to the fact that all three nations have claimed control and the right to use the water resources from the two rivers as an integral part of their territorial sovereignty and respectively their territorial integrity. This goes in line with the prevailing *non-acceptance of international water* law, especially by Turkey. This also has been highly obstructive towards cooperation. Recent developments of a growing acceptance of international water law and the recognition of common needs and interest – like Syria and Iraq being signatories of the UN Water Convention and Turkey having signed other environmental and transboundary related treaties and being in the process of implementing the EU Water Framework Directive (WFD) – display the legal rapprochement and tend to be constructive for cooperation.

The assumed *dominance of a regional hegemon*, namely Turkey, being obstructive towards cooperation cannot be confirmed without restrictions. In fact, Turkey exercised structural power upon the riparians, but they successfully applied certain counter-strategies like Issue-Linkages leading to a contested hegemony at least. Furthermore, Turkey is recently following a strategy of *positive leadership* rather than one of negative coercion, coming up with several proposals and cooperative initiatives within other political and economic arenas, which seems to be constructive towards transboundary water cooperation.

Clearly, the structural *embedding of the water dispute in larger regional and international contexts* has been obstructive towards cooperation. The Syrian play-out of the Kurdish card, the Syrian-Iraqi ideological rivalry over regional hegemony and the Syrian-Turkish confrontation within the system rivalry of pro-Soviet East and pro-American West, as well as unsettled territorial issues of the province Hatay, added fuel to the contested water issues. Later on, the Kurdish question – precisely the related oppression – became a unifying factor for the riparians. The shared security concerns about Iraq and the overall regional rapprochement changed such larger embeddings into factors conducive towards cooperation.

The planning and construction of unilateral water development projects clearly was and still is one of the main factors hampering transboundary water cooperation. This is due to the fact that the Turkish GAP is perceived as the main threat for the downstream riparians while previous large-scale Syrian and Iraqi water projects put further stress on the resources. But even here recent cooperation visible in the GAP-GOLD Agreement shows that exchange of experiences and data can cause further collaboration and induce incentives for cooperation.

Process Factors:

The *uncertainty of data and communication problems* among the riparians are still one of the main process factors obstructing cooperation. But they might function as a good starting point for cooperation with regards to content since the riparians recently started to share and agree on data.

Issue-Linkage in general is one of the most ambivalent process factors shaping the dispute. This aspect hampered cooperation over decades mainly due to the fact that other issues like the Kurdish question, economic oil issues, ideological and generally strained security issues have been linked with water issues making them more resistant to a cooperative solution. On the other hand, such linkages offered additional benefits to be gained through water cooperation. Since overall relations between the riparians improved, such linkages turned into trade-offs within other areas like the social, ecological, economic and political sectors, allowing regime establishment in these arenas, which in turn had constructive spill-over effects on transboundary water cooperation.

The *De-Securitisation of water issues* has been highly conducive towards cooperation. Since there is a regional trend to follow a broader concept of security, linking it to environmental, economic and social aspects, there is room for a new agenda framing towards regional cooperation in general and water in particular.

Country-Specific Factors:

Within the country-specific factors, it was evident that the *one-sided policy approaches* and associated *rent-seeking behaviours of actors and respective clientelism* hampered cooperation. All countries pursued policies of (mainly food) self-sufficiency and have

been caught in hydraulic mission approaches, which did not allow much room for mutual cooperation.

Since there are *positive domestic policy changes and internal processes of democratisation and liberalisation* occurring within all riparian countries, an overall rapprochement took place. For Turkey this is particularly true due to the EU-association process, for Syria due to the new presidency of Bashar As-Saad and external pressures, and for Iraq due to the fall of the Saddam Regime and related (although contested) processes towards democracy. All these are fostering cooperative attitudes on water issues.

Factors of International Context:

Political isolation and exogenous uncertainties as well as *negative influences of international organisations and a history of mistrust and foreign conflict* have been clearly obstructive towards water cooperation. The threats associated with the Saddam Regime in Iraq and its wars, the foreign policy isolation of Syria and the long-time uncontested and unquestioned western support of Turkey did not leave much room for trust-based water cooperation. Such factors particularly hindered water cooperation, as there was a low degree of trust already due to the historic rivalries between Turkey and its Arab neighbours and the military armament and pseudo-confrontation between Syria and Iraq.

On the other hand, it became clear that more recent and contemporary *good bilateral relations* between the riparians set strong incentives for water cooperation. The Adana Security Protocol between Turkey and Syria, for example, paved the ground for further Memoranda of Understandings (mainly of economic relevance) and recent broader intergovernmental exchange.

International factors like *memberships and adherences to other regional organisations and regimes* proved particularly constructive towards cooperation. Since Turkey is applying for EU-accession, it aims to implement the WFD, which explicitly calls for transboundary water cooperation with non-EU members also. Syria's EU-rapprochement within the frame of an Association Agreement in 2004 and Iraq's more cooperative attitude within all international bodies since the fall of the Saddam Regime, point in the same direction, creating both internal aspirations towards cooperation and external pressure and obligations towards transboundary water cooperation.

The *international agenda-setting in transboundary water cooperation*, which is embodied by several key conferences and the development of legal efforts, further adds to the list of circumstances conducive to additional cooperation. Whereas precise support of international organisations and third-party involvement still has to deliver concrete results and outcomes in terms of enhanced regional water cooperation, these factors hold true in terms of at least theoretically enhancing the present and future prospects for cooperation.

Very recent and important ingredients of a changed international context have been found within the *non-state and civil society engagement* dealing with transboundary water issues. Non-state actors like the ETIC functioning as epistemic communities have already brought impulses into the dispute allowing cooperation on multi-track channels, which is certainly a way to start before high-level agreements are achieved. Grassroots pressure towards cooperation comes from civil society organisations especially in Turkey, such as the anti-Ilisu movement calling for sustainable water management taking human rights and regional cooperation into account. Due to their application of unlikely alliances with downstream state actors and the worldwide attention being

gained by other NGOs and International NGOs (INGOs), they are likely to transform the water dispute into large-scale overall societal discussions. These will have to be dealt with by the nation states constructively in order to be in line with international aspirations and obligations.

Institutional factors:

One aspect hampering transboundary water cooperation is the prevailing weakness of inner-state capacities of the water sectors and their administration. The other aspect is the insufficient ability of the water regime structures already established between the riparians, more precisely the weakness of the JTC, which has led to deadlocks and which is still – since being revived – the only limited construction to boost sustainable, holistic and accelerated cooperation.

Nevertheless, it is also obvious that despite its weaknesses, the JTC paved the ground for the signing of the two bilateral agreements. It has functioned and is functioning, albeit in a limited way, to build up a negotiation framework for data sharing and project coordination and serve as a useful channel of communication.

Additionally, there are several intra-riparian sector developments, which are likely to facilitate cooperation. All countries recently improved the performance of their domestic water sectors and administrative capabilities. This is likely to have spill-over effects on transboundary institutional capabilities as well. The outlined diversification of non-state actors like the ETIC and the social movements also offer – when politically accepted – institutional and administrative capabilities to facilitate and strengthen transboundary water cooperation.

5.2.2. Evaluation of the Research Theses

Based on the discussion of the factors obstructive and conducive towards transboundary water cooperation, the testing of the hypotheses delivered the following results:

1. Within the Euphrates-Tigris Basin (E-T Basin) a shortage of water resources and their deterioration in terms of quality are at present more likely to be driving forces of cooperation than of conflict (Regime Theory).

The thesis holds true because the shared demand increased the incentives for cooperation. Since the 1960s, the riparians have had to deal with conditions of interdependency. Such interdependencies are likely to be a necessary, but not sufficient condition for cooperation. Firstly, it depends on the overall relations between the riparians, which then take up the increased problem pressure in terms of the quantity and the quality of the resources. And secondly, it is still the aspired or, better, the already established water regime which creates the linkages between interdependence and actual cooperation.

The simple assumption of “the greater the need and dependence of a state on the shared resources for its socio-economic development in absolute and relative terms in comparison with other riparians, the greater its effort to reach an agreement” cannot not be answered uni-directionally since severe and absolute water scarcity remains more or less hypothetical in the Euphrates-Tigris Basin and since non-water issues are interlinked with water issues. This points to the need to acknowledge the broader circumstances and the difference between real and perceived demand, as well as the problem pressure which brings the riparians into dialogue or not. But experiences with regional cooperation, which was established rather quickly and effectively, as

exemplified in the Iraqi Marshlands issue, do underpin such theoretical assumptions. Furthermore, it became obvious that “[t]he problem is located at the political/institutional level and is not merely a matter of abundance and/or scarcity” (Kibaroglu et al. 2008: 226). Such findings do substantiate as well the need for political science-based research and efforts.

2. Existing other regimes (e.g. economic) are reshaping water cooperation leading to spill-over effects and vice versa (Regime Theory).

This assumption could clearly be proven since the JTC was established in the environment of the Joint Economic Council (JEC). Moreover, it was the signing of security agreements between Syria and Turkey, which allowed the signing of a water accord. The recent establishment of mainly economic regimes, which created room for enhanced water dialogue, also deliver proof for the hypothesis. The bilateral relations among the riparians clearly developed on a sectoral basis, later on linking different sectors and recently aiming at multi-resource linkages. Cooperation projects like the GAP-GOLD Protocol, the Joint Orontes Dam and wider-scope initiatives like the ETIC show the possibilities and application of a regional framework for overall water-based overall development, which influence each other and create a network of cooperative events. These in turn are also likely to lay the ground for stepping away from unilateral large-scale developments. Recent developments especially in economic issues offer new platforms of cooperation and spill-over effects to the water sector. On the other hand, it also holds true that water disputes evolve in the regional context of generally low economic and political cooperation.

3. Recent developments from military security to development perspectives offer new perspectives for water allocation (Constructivism).

The focus on national security based on military aspects clearly hampered cooperation in general and transboundary water cooperation in particular. Since almost the whole Middle East underwent a change in security, perceptions, shifting towards a wider framework of development-based socio-economic security, including environmental and social aspects of security, "even highly politicized and securitized environmental issues such as the water issue in the E-T Basin can be approached in a sensible manner […] by acknowledging the cooperation and collaboration efforts in the basin" (Kibaroglu et al. 2008: 223). This went along with a growing awareness of ecological health as an essential component for regional order. Since water is recognized as an integral part of environmental security, there are new perceptions of national security, which broaden the scale of cooperation even in arenas of high politics. Dialogue over water issues has lately focused more on recognized needs and interest than solely on disputed water rights. This points in the same direction and underpins the overall broadened perceptions of the actors involved.

4. The diversification of actors and their interest and values are reshaping the regional cooperation attitude (Constructivism).

This thesis holds true especially when looking at recent developments: The ETIC has been gaining ever more attention and international NGO-coalitions have gained power to block further investments for the GAP. More evidence in support of the hypothesis can be found in the growing importance and influence of other international organisations and regimes in which the riparians are now embedded. The morality and

conditionalities for adherence and association processes as set by the EU put pressure on the riparians. The international change of norms towards environmental cooperation and socio-ethical considerations as established through the WCD further underpin this. Within newly globalized networks of actors and norms, the riparians cannot act unilaterally and obstructively anymore, since too many aspects are interlinked.

5. Water was and is always issue-linked. What counts is the positive or negative perception of it (Benefit-Sharing / Issue-Linkage).

It could be shown that conflicts about water within the E-T Basin always have been linked to aspects in other political arenas. It was and still is the non-water issues, outstanding policy issues and overall relations of riparians, which account for whether cooperation or disputes take place. Within such contexts, water issues have been instrumentalised to different degrees as resource issues in international and regional conflicts. With the context having changed, the perception of certain issues has changed, too. One example is the Syrian play-out of the *Kurdish card* against Turkey: Since the overall relations have improved, this issue is now more likely to unify the riparians. Furthermore, it is the multi-purpose use of water, which offers room for both the sovereign and sole claims on water sharing and rights. This turns out to be a zero-sum game and the considerations of a broader development approach, including Benefit-Sharing and national water plans, turn out to be a positive sum game, allowing integrated approaches and solutions.

6. Shared interests prevent conflicts from erupting into violence (Benefit-Sharing / Issue-Linkage).

The last statement already highlights the core of this thesis: Since there is more to lose through violence than to gain by cooperation, especially in terms of mutual and shared interests, the thesis holds true theoretically and practically. The shared interests of the riparians brought them into bilateral cooperation as evident in the two water agreements and furthermore in the solutions of the disputed issues: the province Hatay, the Orontes River and the Kurdish question. Recently, there is clearly a shared interest in creating regional economic, trade, security, health and other regimes, which have already boosted cooperation and ruled out the option of interstate violence or even war.

5.2.3. Limitations of the Theories Used and Research Desiderata

The applied mixture of complementary theoretical concepts of the International Relations (IR) Theories and the eclectic approach has proven to be highly valuable in terms of gaining a holistic picture of the water dispute within the E-T Basin over time, distinguishing between factors obstructive and conducive towards transboundary water cooperation and coming up with certain recommendations to boost cooperation and regional development.

Here it was especially the combination of country-specific and contextual factors with the underlying problem structure, which delivered the full picture and offered the possibility to explain changes over time towards enhanced regional and water cooperation. Thereby it could be shown that national, regional and international circumstances strongly shape the regional water issues while contested amounts of water, unidirectional power plays or the lack of existence of water institutions also have

a role to play. Through the application of the theories, several theoretical assumptions could be proven and some were falsified, which will be discussed in the following sections.

Realistic Approaches

The E-T Basin clearly serves as an example for the rejection of the simplistic water war theory stemming from the realist approach. First, the riparians did not wage war over water; secondly, the prospects for cooperation increased over time; and thirdly, the interrelations of water issues, cooperation and overall relations among the riparians and the embedding of a water dispute within a whole regional setting is by far too complex a situation for the successful application of such a simplistic theory.

There is no hydrological determinism leading to water wars, but there are clear rivalries of utilisation embedded in socio-economic and political settings shaping disputes. The hydro-hegemonic perspective was helpful in the sense that it contributed to the understanding of the underlying structures. However, it cannot be applied to get the whole picture or even to show alternatives and highlight incentives for cooperation. Analysing the water dispute within the E-T Basin has shown that Turkey has a powerful position in hydraulic issues, but also in socio-political terms. Nevertheless, its regional hegemony is contested and constrained due to inner-political, global and regional riparian-related aspects.

Institutionalist Approaches and Regime Theory

Five factors or independent variables, which determine the prospects for conflict and cooperation have been identified: *problem factors, process factors, institutional factors, country-specific factors* and *factors of international context*. Based on this categorization the application of the Regime Theory offered a theoretical and practical understanding of underlying causes. Firstly, it proved to be useful to search whether regimes in general and water regimes in particular do exist within the basin, how they perform and what might be their strengths and weaknesses. Secondly, the Regime Theory-based application of the Analytical Matrix Framework proved to be highly valuable in order to classify different factors of regime formation and regime effectiveness. The case study-related disquisition of the theoretically gained factors conducive and obstructive towards transboundary water management set the frame for an in depth analysis of the water dispute, its causes, its structures and its changes.

The results of this disquisition are valuable for both the theory development and practical lessons learned for the basin. Furthermore, it might prepare the ground for an analogy with other cases based on similar analytical categories.

The institutionalist assumption of perceived demands and interdependencies serving not as an incentive for waging war against each other, but as an incentive to establish minimal types of cooperation over the imminent use of the Euphrates and Tigris, could be proven in line with regime theoretical assumptions of the growing interdependence of the riparians. But interdependence is not a sufficient condition for cooperation. The establishment of regimes provides the necessary linkage between interdependence and cooperation. Here the analytical terms of Regime Theory describe the failures of far-

reaching tripartite regime formation in terms of still not having reached consensus on the basic principles and norms (rights and obligations) among the riparians.

Regime theoretical approaches of epistemic communities and the Two-Level Analysis can explain change over time and especially recent developments of cooperation within the basin. Taking into account firstly, inner-societal changes and movements like the ETIC and regional civil society movement connected with international NGO movements; and secondly, inner-state domestic and foreign policy strategies in order to explain political outcomes and regime formation processes has proven to be highly valuable. Therefore, it can be stated that water regime formation displays the overall societal development and circumstances, but the theoretical assumption about complex and quickly interconnected regimes and their related effectiveness seem not to fit into regional contexts of a lower integration and developmental state.

Constructivism

Constructivist assumptions explain the change of perception and social action of diverse actors involved and the resulting overall idea and norm shifts. Here not only the norm establishment towards cooperation and ruling out the option of war, but also the gained influence of non-state actors within the region shaped and still shapes the enhanced prospects for cooperation. Especially the changes in security perceptions and the influence of different and diverse actors and international processes can be understood against this background. The notion that more than the disputed quantities of shared waters, it is the socio-political context, the perception and the environment, which determine the playing out of a conflict proved right.

Benefit-Sharing and Issue-Linkages

The combination of economic and political science-based approaches can explain firstly, how different issues have been linked either positively or negatively creating different structures of costs and benefits associated with cooperation or non-cooperation; and secondly, offers practical hypothetical analysis as to how stalemates and deadlocks might be overcome by making possible shared benefits visible in order to come up with new proposals for the tripartite institutionalised cooperation. Thirdly, cross-sectoral Issue-Linkage in both a negative and a positive manner underpins its importance as an analytical category and as a most suitable tool for future negotiations.

Research Desiderata

Out of the discussed strengths and weaknesses of the theories used and the precise results gained from the case study, several research desiderata obviously deserve further enlargement, correction and application.

First and foremost, it became clear that water disputes are embedded in a broader regional and socio-economic environment, which always requires a hydro-political approach covering legal, political, technical and economic aspects of its multi-dimensional characteristics in order to understand the complexity. Therefore, further studies dealing with the combination of country-specific and contextual factors, the combination of political science and economics and the combination with technical options available are needed with regards to fully evaluating the rate of possible success of cooperation for the E-T Basin.

For the overall understanding of water disputes and the related enlargement of the yet eclectic composition of different scholars, more similar and larger N-studies dealing with different cases against the same analytical background are needed.

Based on such scientific efforts the practical water regime establishment also has to be put into a regional and experience-based context of the whole political economy. Therefore, also the solution or management of such conflicts needs integrated policy approaches. Since this work has made clear that if the water issues are tackled in a cooperative and sustainable manner, they could even contribute to the establishment of new political structures and attitudes in the Middle East aimed at sustainable peace and human development, more emphasis should be put here in both theoretical and practical terms. Such findings point as well to the relevance of more exchange between theoretical research and political practice in terms of politics and development cooperation.

This work also underscored the importance of institutions and showed some practical hints based on principles, norms and rules – although this remains difficult to judge in relation to the E-T Basin due to the presently low degree of institutionalised water cooperation, which as well underpins the scientific and practical efforts needed for regional institutional development.

5.3. Policy Recommendations

At this time, precise policy recommendations aimed at boosting transboundary water and regional cooperation will be given. Such recommendations refer to different levels of intervention, namely the local and national level, the regional and basin-wide level

and the international level. Therefore, quite different meaures are stated and different actors are addressed.

5.3.1. Local and National Level

The outlined problem structure of the case study clearly has shown that there is a potential for lessening the pressures on the shared resources *by improving the overall water sector performances* of each state and *rethinking applied water usage patterns* at first on a national level.

Precise measures regarding the *water institutions* include w*ater sector capacity building, avoidance of overlapping structures and precise water authorities dealing with transboundary issues.* Such measures might not only require strengthened national institutions, but should take place within the extended scope of the JTC and through the use and application of international expertise offered by development cooperation.

In terms of *water quantity*, measures should include the *introduction of water-saving techniques* within the concerned agricultural sectors *and a change in agricultural patterns towards low water demanding crops.* In terms of *water quality*, efforts should concentrate on *wastewater treatment* and *control of return flow*.

Precise advice related to the *sustainable water targets* already exist: Experts propose the application of a 60% irrigation target of the full irrigation target within all countries in order to achieve quality and quality requirements (Trondalen 2008: 191). Precisely, this could mean 7 BMC / year for Turkey and Syria and 13 BMC / year for Iraq (Trondalen 2008: 198) from the Euphrates. Turkey could directly gain by increasing its energy

production by approximately 9% (Trondalen 2008: 189). Under these circumstances, it would be possible to maintain a minimum flow of 500 m^3/s and an average flow of about 750m^3/s at the Turkish-Syrian border. Even after full implementation of the GAP, a minimum flow of 450m^3/s at the Syrian-Iraqi border and an average flow of 550 m^3/s would be possible, as well as an ecologically required flow of 150m^3/s at the point of convergence with the Tigris in Iraq (Trondalen 2008: 198). Transferring water from the Tigris into the river Euphrates could be discussed within each riparian state, but must be clearly agreed upon by all riparians. Since there are still "[…] water losses of up to 40% due to methods of irrigation, high evaporation rates, seepage, and due to the fact that water is provided at zero cost" (Scheumann 1998: 119) national and, as a result, regional benefits of improving the performance in this regard are very likely to be achieved.

5.3.2. Regional and Basin-Wide Level

In addition to the intra-state efforts, the main focus should be put on achieving a sustainable tripartite agreement among the riparians taking several aspects into account based on clarified needs and mutual benefits. Such a *hydro-political approach* should cover legal, political, technical and economic aspects.

Therefore, preliminary *commonly agreed-upon data* is needed, including stream flow, precipitation, evapo-transpiration, water removals, return flow, salinity and facts about land resources, as well as the basin-wide use of remote sensing and Geographical Information Systems (GIS) and optimization technologies. The pending tripartite agreement should be *no simple sharing agreement,* but include natural risks (e.g. droughts and floods), ecological, water quality, and groundwater aspects as well as an agreement on whether two associated agreements for the rivers are needed or a unified

one according to newly generated data – both based on the conducting of an extensive environmental and social impact assessment for all irrigation projects in the watercourses.

The needed *institutional prerequisites of a then-established water regime* should be built on the underlying principle of *effective and equitable management and utilization* of the transboundary rivers and on the overall norm of *optimal utilisation and adequate protection of the Euphrates and Tigris*. Further norms should answer the question of whether the *twin basin or two single basins approach* is chosen.

In order to reach the regional and basin-wide efforts, intergovernmental networks should be created or revived, including the *JTC and Joint Minister Meetings*, for the decision-making procedures and should include precise mechanisms, direct communication channels and monitoring and conflict resolution mechanisms. This should go along with the *enlargement of the agenda and the mandate of the JTC* towards water resources management as part of a larger framework of overall socio-economic development of the river basin, thereby showing a new potential framework for water-based cooperation. Further joint regional research institutes, training centres and pilot projects should be set up and the already existing ETIC should be strengthened, including its institutional structure and legally-binding status. These items point as well to the overall need for *stronger recognition of societal movements* dealing with transboundary water issues.

The then-established *links between cooperation and development* based on Benefit-Sharing should entail the *development of a regional master* plan based on the holistic national socio-economic development plans with a lower degree of costly self-sufficiency, but mutually agreed interdependence, including *compensation mechanism*

and a joint measures programme, the creation of *package solutions by constructive linkage-strategies* and *joint projects in water-related development fields* such as energy, agriculture, environment and health – like *sharing electricity from hydropower and electricity trading* and fostering *inter-sectoral trade* in agricultural products and oil. In general, the *consideration of rational economic and political impacts* should take place including the rethinking of too-high investment and construction costs for excessive reservoir capacities (Kucukmehmetoglu 2008: 3069) by applying basin-wide solutions and several ecological and socio-economic adapted small-scale projects having less transboundary effects. Even more regional efforts can be undertaken by *thinking out of the box* that might be, e.g., the embedding of water-rich Lebanon in regional cooperation towards water and Benefit-Sharing or the consideration of *Virtual Water Trade*.

Clearly, regional efforts must aim at the adoption of *International Water Law* and *Integrated Water Resources Management (IWRM) principles* including the mutual agreement on the UN Water Law Convention and the *collaboration with other legal water aspects* and orientation towards the EU-WFD.

5.3.3. International Level and Development Cooperation

Supplementary to the national and regional efforts to achieve better transboundary cooperation, there are several efforts, which could be realised on the international level precisely by external actors including international organisations, development cooperation (DC) and donors, international movements and third parties.

Among those measures might be the *mitigation of cross-border pollution* by third-party compensation mechanisms, the installation of *treatment plants* (e.g. and especially desalination plants) at the Syrian-Iraqi border and later on at the Turkish-Syrian border

to maintain certain water quality levels (Trondalen 2008: 199), the *provision of funds and linkages with conditionalities* of cooperation and social and ecological standards, and the internationally supported establishment of a *Euphrates-Tigris Initiative* (ETI) – in analogy to the Nile Basin Initiative (NBI). Generally, there should be increased *international support within processes of adherences*. This refers in particular to the encouragement of Turkey within the EU-accession negotiations to enhance and improve transboundary water cooperation and the implementation of WFD, but also to encourage all of the riparians in going ahead with further regional cooperation agreements, regional integration processes and efforts towards acceptance of internal water law. Furthermore, all activities undertaken by DC within the respective riparian states – like water sector consultancy or infrastructure investments – should be based on the overall aim of *Good Water Governance* – including transparency, the rule of law, accountability and legitimacy of institutions and leaders (Houdret et al. 2010).

International Support by DC or other international organisations might be offered and extended in technical aspects as well as *twinning projects*, *sharing experiences* in transboundary water management (in terms of information, water allocation, pollution control, financing of measures and organisational approaches), and support in technical and data issues (e.g. monitoring infrastructure, data gathering and analysis, hydrological and integrated hydrological economic modelling).

6. Conclusions

After the in depth analysis of the history and recent developments of conflict and cooperation between the riparians, Turkey, Syria and Iraq, it can be concluded that an obvious – although slight – process towards transboundary water cooperation within the Euphrates-Tigris Basin has developed over time.

Historically, different stages of conflict and cooperation could be classified as being more or less tensioned. Within those stages three major crises occurred (1975, 1990 and 1995/96) – all related to the construction or the filling of large-scale dams. During the ambivalent times of crises and negotiations, two transboundary water agreements – one between Turkey and Syria and one between Syria and Iraq – have been reached as well. Although bilateral, they represent the clearest water-related regimes in terms of institutionalised cooperation within the basin. Since the late 1990s, the water dispute entered a new stage characterized by recent developments and an overall rapprochement of the riparians bringing new perspectives and new actors to the agenda of transboundary water politics correlating with significant political changes and improvements in bilateral relations.

Such findings justified the political science-based analysis making clear that the water dispute was and still is embedded in a broader regional and socio-economic environment, which requires a hydro-political approach covering legal, political, technical and economic aspects of its multi-dimensional characteristics in order to understand the complexity.

As a base of identification and analysis of such factors, specific theories of International Relations (IR) and interdisciplinary approaches have been used which already have

shown some explanatory power with regard to transboundary cooperation, namely Regime Theory, Constructivism and the Concept of Benefit-Sharing and Issue-Linkage.

Here it was especially the Regime Theory-based examination of five factors or independent variables, which have been said to determine regime formation and regime effectiveness: *problem factors, process factors, institutional factors, country-specific factors* and *factors of international context*. Additionally, the Theory of Constructivism was applied with special references towards the explanation of the *factors of international context* and changing prospects of cooperation. The Concept of Benefit-Sharing and Issue-Linkage explained firstly, how different issues have been linked either positively or negatively, creating different structures of costs and benefits associated with cooperation or non-cooperation; and secondly, a practical hypothetical analysis of how stalemates and deadlocks might be overcome by making potential shared benefits visible in order to come up with new proposals for the tripartite institutionalized cooperation.

Based on the developed Analytical Matrix Framework, the Euphrates-Tigris case study provided evidence of key factors for conflict and cooperation. Here it was especially the combination of country-specific and contextual factors with the underlying problem structure which delivered the full picture and offered the possibility of explaining changes over time towards enhanced regional and water-related cooperation.

Built upon the categorization of the *conflict type* as mainly a *conflict of relative distribution,* it was found that the c*onflict structure* is more decisive: it is the *disputed water rights* and the prevailing *non-acceptance of international water* law, especially by Turkey, which hampered cooperation. Recent developments of a growing *acceptance of international water law* and the *recognition of common needs and interest* – like Syria

and Iraq being signatories of the UN Water Convention and Turkey having signed other environmental and transboundary related treaties and being in the process of implementing the EU Water Framework Directive (WFD) – display the legal rapprochement and tend to be constructive for cooperation.

Clearly, the structural *embedding of the water dispute in larger regional and international contexts* has been obstructive towards cooperation. The Syrian play-out of the Kurdish card, the Syrian-Iraqi ideological rivalry about regional hegemony and the Syrian-Turkish confrontation within the rivalry of pro-Soviet East and pro-American West, as well as unsettled territorial issues of the province Hatay, added fuel to the contested water issues. Later on, the Kurdish question – precisely the related oppression – became a unifying factor for the riparians. The shared security concerns about Iraq and the overall regional rapprochement changed such larger embeddings into factors conducive towards cooperation.

The planning and construction of *unilateral water development* projects clearly was and still is one of the main factors hampering transboundary water cooperation. This is due to the fact that the Turkish GAP is perceived as the main threat for the downstream riparians while previous large-scale Syrian and Iraqi water projects put further stress on the resources. But even here recent cooperation visible in the GAP-GOLD Agreement shows that exchange of experiences and data can cause further collaboration and induce incentives for cooperation.

Within the country-specific factors, it was evident that the *one-sided policy approaches* and associated *rent-seeking behaviours of actors and respective clientelism* hampered cooperation. All countries pursued policies of (mainly food) self-sufficiency and have been caught in hydraulic mission approaches, which did not allow much room for

mutual cooperation. Since there are *positive domestic policy changes and internal processes of democratization and liberalization* occurring within all riparian countries, an overall rapprochement took place. For Turkey this is particularly true due to the EU-association process, for Syria due to the new presidency of Bashar As-Saad and external pressures, and for Iraq due to the fall of the Saddam Regime and related (although contested) processes towards democracy. All these aspects are fostering cooperative attitudes in water issues.

Based on these findings, the main hypothesis could be proven: that within the Euphrates-Tigris Basin (E-T Basin), a shortage of water resources and their deterioration in terms of quality are at present more likely to be driving forces of cooperation than of conflict. Furthermore, highlighting the recent overall rapprochement of the riparians is the assumption that other existing regimes (e.g., economic) are reshaping water cooperation and leading to spill-over effects and vice versa. The recent developments have clearly showed as well that the diversification of actors and their interests and values are reshaping the regional prospects for cooperation.

It can be summarized that the Euphrates-Tigris case shows the way towards a broader cooperative attitude and points to the importance of historic and present interrelations of water issues with other issues. Therefore, the Euphrates-Tigris Basin is a favourable example to underline the complexity and interlinkages of water, conflict or cooperation and socio-economic conditions within a highly political and politicised regional context. Although a sustainable tripartite basin-wide agreement is still pending, the prospects for transboundary cooperation have increased.

In order to boost such cooperative tendencies, the work produced precise policy recommendations. Such recommendations referred to different levels of invention,

namely the local and national level, the regional and basin-wide level and the international level. With regards to the national level it is the *improvement of the overall water sector performances* of each state and the *rethinking of applied water usage patterns* in order to reach both the institutional prerequisites of transboundary cooperation and the lessening of the pressure on the resources. On the regional level the main focus should be on achieving a sustainable tripartite agreement among the riparians, taking several aspects into account based on clarified needs and mutual benefits. Such a *hydro-political approach* should cover legal, political, technical and economic aspects. Furthermore, there are several efforts which could be realized on the international level precisely by external actors, including international organisations, development cooperation and donors, international movements and third parties. Here, measures might include *mitigation of cross-border pollution,* the *provision of funds and linkages with conditionalities* of cooperation and social and ecological standards, the internationally supported establishment of a *Euphrates-Tigris Initiative* (ETI) – in analogy to the Nile Basin Initiative (NBI) and the overall principle of intervention based on the aim of *Good Water Governance* – including transparency, the rule of law, accountability, and legitimacy of institutions and leaders.

A then-increased transboundary water cooperation is likely to take the same road of an overall enhanced regional cooperation occurring in the basin. Such regional cooperation is said to be one preliminary condition in modern times of interdependency in order to assure development and socio-economic growth for both the nation states concerned and the whole region, which is longing for peaceful and sustainable development.

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حوض الفرات– دجلة و طريقه من الصراع إلى التعاون

تطبيق نظريات سياسية في التعاون الإقليمي

إعداد

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ملخص **Abstract (Arabic)**

تهدف هذه الدراسة إلى استقصاء العوامل الرئيسية للصراع والتعاون بشأن قضايا المياه الإقليمية في حوض الفرات - دجلة. المياه وهي مصدر حيوي لأي جانب من جوانب الحياة والمجتمع لا تتوقف عند الحدود الوطنية. ولكن في كثير من الأحيان لا تستخدم تلك الموارد المائية الإقليمية بطريقة مستدامة مما يضع ضغطا هائلا على الموارد وربما يؤدي إلى توترات سياسية بين الدول الواقعة على أحواض الأنهار. بما أن منطقة الدراسة تقع في دائرة نقاش مبالغ فيه عن حرب محتملة بسبب المياه فهي تستحق تركيزا خاصا. و ما يجعل الدراسة تكتسب أكثر أهمية هو أهمية المصادر المائية لتلك الدول على الصعيد الوطني بالإضافة إلى أهمية تلك الدول بالنسبة للمنطقة. تغير المناخ والنمو السكاني يضيف مزيدا من الضغط على تلك الموارد. وبما أن البحث السياسي المبني على العلم لا يزال قيد التطوير فيما يتعلق بالمنطقة وقضايا المياه الإقليمية على حد سواء ، فإن العمل يطبق إطار تحليلي على أساس نظريات ذات علاقات دولية، وهي نظريات النظام، البنائية و مفهوم تقاسم المنافع متعدد الفروع من أجل إجراء تحليل معمق للحوض من حيث الصراع والتعاون. الافتراض الرئيسي هنا هو أنه هنالك غالبا ظروف أخرى، إقتصادية على سبيل المثال، عوامل جيو سياسية أو قضايا أمنية تعوق التعاون و التي يمكن أن تقود إلى الصراع بدلا من الماء نفسه. ولذلك، فإن هذه العوامل المصاحبة هامة لتحديد النطاق المحتمل للعمل على الوقاية من الصراعات و لتحديد فرص للتعاون في أحواض المياه الإقليمية. و هذا التعاون الإقليمي يوصف بأنه شرط أولي في العصر الحديث للتكافل من أجل ضمان التنمية والنمو الاجتماعي الاقتصادي لأمم تلك الدول المعنية وللمنطقة بأسرها. تحليل التاريخ والتطورات الأخيرة في الصراع والتعاون بين الدول الواقعة على أحواض الأنهار -- تركيا وسوريا والعراق – تظهر بأن هنالك عملية واضحة مع أنها طفيفةمن التعاون في مجال المياه الإقليمية في حوض الفرات - دجلة تطورت مع مرور الوقت.

تاريخيا، يمكن تصنيف مراحل مختلفة من الصراع والتعاون على أنها أكثر أو أقل توترا. من ضمن هذه المراحل نجد ثلاث أزمات رئيسية وقعت أعوام 1975 و 1990 و 1995-1996 جميعها مرتبطة بإنشاء أو ملء سدود على نطاق واسع. خلال الأوقات حينما كانت الأزمات و المفاوضات متأرجحة، تم التوصل إلى إتفاقيتي مياه إقليمية، واحدة بين تركيا و سوريا و الأخرى بين سوريا و العراق. و بالرغم من تأثير الإتفاقية على كل من أي طرفين فيها فإنها تعبرعن أوضح تعاون مؤسساتي في حوض المنطقة بما يختص بإتفاقيات المياه الجارية. منذ أواخر التسعينيات دخل النزاع حول المياه مرحلة جديدة تتمايز بالنظر إلى التطورات الأخيرة و بالتقارب بين الدول

الواقعة على أحواض الأنهار جالبة آفاقا جديدة و جهات فاعلة جديدة إلى جدول أعمال سياسات المياه الإقليمية مما يربط بين تغييرات سياسية و تحسينات كبيرة في العلاقات الثنائية. ولذلك، فإن حوض الفرات - دجلة هو مثال مؤات للتأكيد على التعقيد والترابط بالنسبة للمياه، الصراع أو التعاون والظروف الاجتماعية الاقتصادية ضمن سياق إقليمي سياسي و مسيس إلى حد كبير. وعلى الرغم من أن إتفاقا ثلاثيا مستداما على نطاق الحوض لا يزال معلقا، فإن آفاق التعاون بين الدول الواقعة على أحواض الأنهار قد تحسنت.

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Date: 30th of January 2011 Signature: